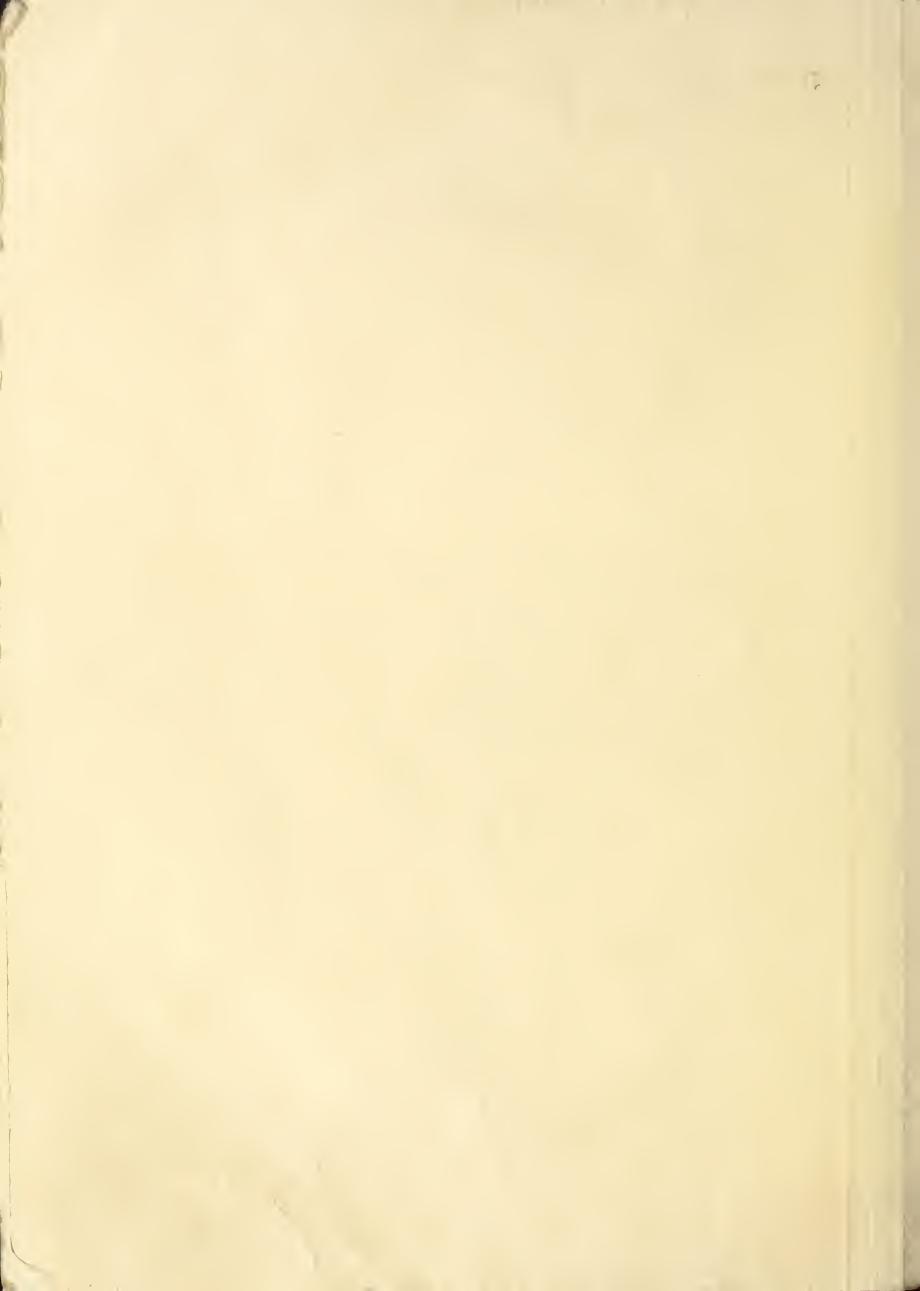
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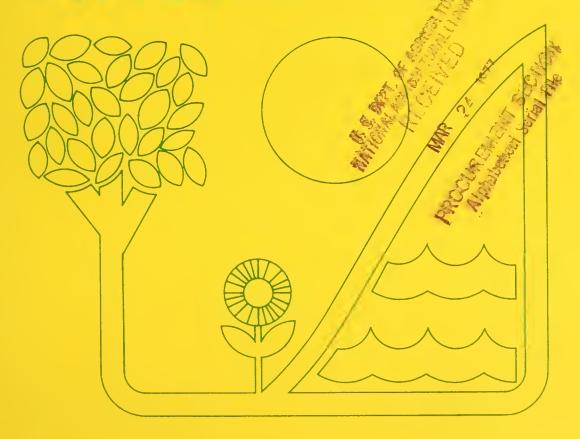


FOR DISCUSSION ONLY

WORKINGPAPER



RESEARCH DEPARTMENT OF AGRICULTURE





Number 9

SELECTED CROP ENTERPRISE COST BUDGETS FOR OREGON

B. Ted Kuntz

May 1976

Northwestern Resource Program Group
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Economic Research Service
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PREFACE

This report for Oregon is one of three reports on crop budgets prepared as input data to the Pacific Northwest Region's least-cost linear programming model. In 1973 the Economic Research Service (ERS) purchased a copy of the Oklahoma State University Crop and Livestock Budget Generator Program and installed it on the Oregon State University computer. The crop budgets presented in this report were processed by this computer program. Both the crop budget work and the linear programming work are part of the study to prepare the Coordinated Comprehensive Joint Plan for land and water resources in the Pacific Northwest Region.

The Economic Research Service cooperated with the Soil Conservation Service in collecting data on machinery operations for crop budgets. Special recognition is given to Paul Dyke, Economic Assistant, ERS, for extra effort in adapting the Oklahoma State University program to run on the Oregon State University computer, and to Keith Cromwell, Economist with the Soil Conservation Service, for assistance in collection of budget input data and review of crop budgets. Without the assistance of these individuals, the budgets presented in this report would not be available.

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SELECTED CROP ENTERPRISE COST BUDGETS FOR OREGON

B. Ted Kuntz¹/

INTRODUCTION

This report by the Economic Research Service of the United States

Department of Agriculture is a contribution to the Pacific Northwest River

Basins Commission's Comprehensive Coordinated Joint Plan for the Pacific

Northwest Region. The study is a part of the Water Resources Council program to develop plans for comprehensive water development and management

for all major river basins in the United States. The objective of the study

is to prepare a plan to guide federal, state, and local interests in the

efficient, timely, and comprehensive management, conservation, development,

and utilization of water and related land resources.

AGENCY REPORT PURPOSE

The purpose of this report is to make available to cooperating agencies the crop enterprise cost data developed as input data to the Pacific Northwest Region least-cost linear programming model. These crop budgets were prepared specifically for use in an economic evaluation of the productive capacity of the land resources. Therefore, the input costs, machinery performance rates, and assumptions in the budgets, are consistent in all budgets. Costs were calculated by a crop budget generator program developed at Oklahoma State University and recently installed on the computer at Oregon State University. Use of the crop budget generator greatly facilitates calculation of costs and consistency of assumptions among budgets.

^{1/} Agricultural Economist, Economic Research Service, Natural Resource Economics Division, U.S. Department of Agriculture, Corvallis, Oregon.

This report will minimize the discussion of the crop budget generator program. The methodology in the program was developed at Oklahoma State University, and has been used unchanged. Also, many of the definitions that follow in this report are identical or only slightly modified from those developed at Oklahoma State University. A complete discussion of the methodology, computational algorithms, computer installation procedures, operation of the program, and file maintenance procedures necessary to use the budget generator is available in the following reports:

Walker, Rodney L. and Darrel D. Kletke. <u>User's Manual</u>, Oklahoma State University, Crop Budget Generator, Oklahoma State University Agricultural Experiment Station Progress Report P-656, November 1971, revised October 1972 [8].

Kletke, Darrel D. User's Manual, Oklahoma State University Livestock Budget Generator, Oklahoma State University Agricultural Experiment Station Research Report P-661, April 1972 [3].

Walker, Rodney L. and Darrel D. Kletke. The Application and Use of the Oklahoma State University Crop and Livestock Budget Generator, Oklahoma State University Agricultural Experiment Station Research Report P-663, July 1972, and the supplement and corrections to Research Report P-663, March 1974 [7].

A discussion of the equations used in calculating the various costs is included in Appendix I of this report.

PROCEDURE

Crop budgets presented in this report were developed by land resource areas within Oregon. Land resource areas are delineated, with emphasis of general uniformity of natural cover, land use, topography, climate, and range of soil characteristics for contiguous areas within the broad landscape. Figure 1 shows the land resource areas that have been delineated in Oregon.

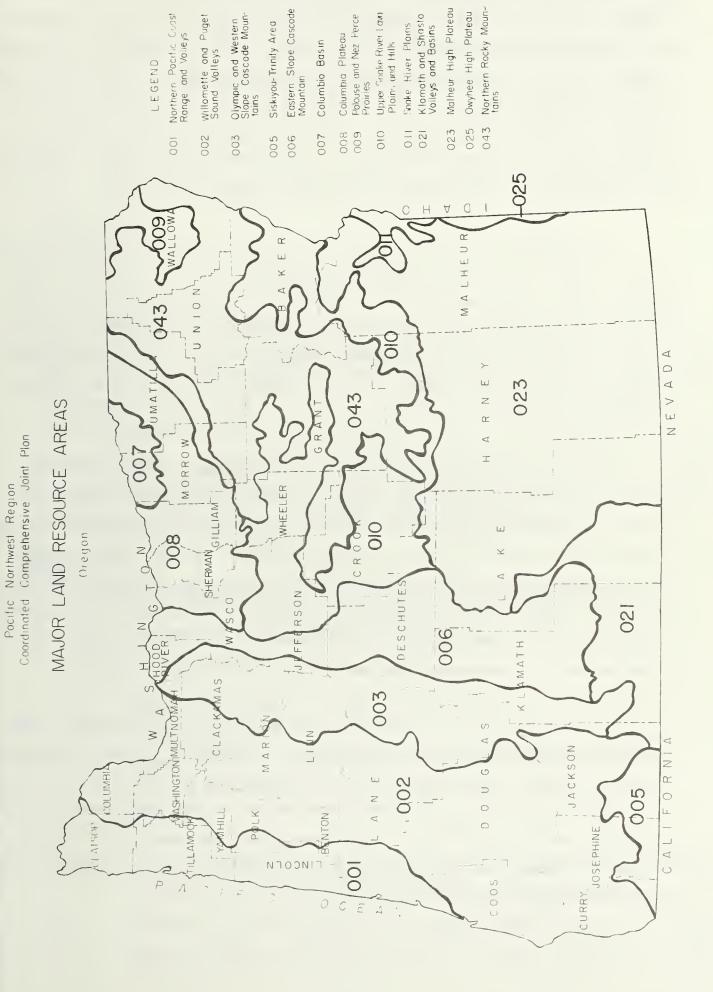


Figure 1

Crops for which budgets would be developed were limited to those crops included in the 1972 OBERS Food and Fiber projections for Oregon [6]. The OBERS crops are generally defined as those crops with 1 percent or more of the U.S. production of that crop produced in the state. This report contains budgets for the following crops: wheat, barley, oats, potatoes, field corn, seed corn, sweet corn for processing, wild hay, alfalfa hay, and clover-timothy hay. Irrigated, nonirrigated, and various rotation practice budgets are included where applicable.

Crop production and input data in terms of machinery operations, purchased inputs, yield, and irrigation practices, were collected by personnel of the Soil Conservation Service. The data collected represent a blend of typical tillage practices and machinery complements for each area. Implied levels of management associated with these typical practices are those of the larger, more successful farmers in the various land resource areas.

Cost data included in the budgets are for late 1974. These data were collected from machinery dealers, farmer cooperatives, and fertilizer and chemical dealers, by personal and telephone interview. Product prices were taken from the U.S. Water Resources Council, Agricultural Price Standards for Water and Related Land Resources Planning, October 1974 [5]. Where product prices were needed for crops not in the above report, current normal prices were estimated for 1974 by similar procedures used in generating the price data in the above report.

Water costs are not included in the irrigated crop budgets. Published and unpublished data on charges to the farmer for water were collected on user-operated Bureau of Reclamation and private irrigation water supply projects. The charges for water varied considerably. Completeness and availability of the data proved inadequate to estimate weighted average costs for water by land resource areas. Therefore, water costs were omitted from the budgets.

Costs and labor requirements for five on-farm irrigation systems were estimated, using published and unpublished data. The systems were hand-move sprinklers, side-move sprinklers, side-move tow sprinklers, self-propelled sprinklers, and surface flooding. All systems are used on most crops in any land resource area. However, data are not available to estimate weighted average irrigation costs. Therefore, the predominant irrigation system, based on the knowledge of the Soil Conservation Service personnel, was selected by crop in each land resource area.

MACHINERY COMPLEMENT

The machinery complement data presented in table 1 are the input data necessary for calculating machinery costs in the crop budget generator program. The program uses these data and the equations presented in Appendix table 1 for all budgets. Costs of machinery are based on data and assumptions included in table 1. This is advantageous in updating budgets, because only the values in this table need to be changed to update the machinery costs in all budgets. Because of the importance of these data, the table will be discussed by column.

Column

- 1. <u>Code number</u> a number between 1 and 100 that is used internally in the computer program in lieu of the name of the machine.
- 2. Width the swath, in feet, that a machine covers, except for tractors. For tractors, this column gives the horsepower. Width of the equipment is used with speed and field efficiency to calculate performance rates for the machines.
- 3. Initial list price this variable is the factory-recommended selling price in dollars, not the purchase price of the machine. For those machines that only purchase price was available, a factor of 1.088 was used to estimate list price. This

Sweep CC cultiv Sweep CC cultiv Float Row cultivator Row cultivator Row cultivator	Corrugator Offset disk Offset disk Tandem disk Tandem disk Spike harrow Spike harrow	MB plow 3-16 NB plow 4-16 NB plow 5-16 MB plow 6-16 MB plow 10-16	SP combine hill SP combine hill SP awather SP awather SP combine	Wheel tractor Wheel tractor Wheel tractor Crawler tractor Crawler tractor Crawler tractor Wheel tractor Wheel tractor	Column
50 51 52 53 54 56	35 36 37 38 39 39 40 41 43 44 45 46	30	15 16 18	987654321	Code
18.0 24.0 12.0 6.0 12.0 16.0 12.0	12.0 24.0 118.0 24.0 8.0 10.0 20.0 36.0 12.0 20.0 30.0 40.0	4.0 5.3 6.7 8.0 13.3	14.0 16.0 18.0 12.0 14.9	40.0 50.0 60.0 92.0 65.0 80.0	2 Width (ft.)
2,300 2,800 750 750 1,800 2,900	1,200 7,000 9,000 1,700 3,500 7,000 5,200 5,200 1,160 1,160 1,160	2,900 3,600 4,300 5,500 7,500	33,000 46,000 37,000 10,000 12,000 32,000	7,500 8,500 11,000 22,000 41,000 28,000 41,000 15,400	Initial list price
	4 5 4 5 4 5 4 5 6 5 6 6 6 6 6 6 6 6 6 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3.0		Speed (mph)
.76 .76 .83 .80 .80	.76 .76 .83 .83 .83 .83 .83 .83		.67 .67 .67 .77		Fiold effi- clency
1.00 1.00 1.00 1.00	1.00 1.00 .65 .65 .65 .65	2.00 2.00 2.00 2.00 2.00	1.00	1.20 1.20 1.20 1.20 1.20 .80 .80 1.20 1.20	RC1
.000251 .000251 .000251 .000251 .000251 .000251	. 000751 . 000251 . 000251	.002510 .002510 .002510 .002510 .002510	.000251 .000251 .000251 .000251 .000251	.000631 .000631 .000631 .000631 .000631 .000631 .000631	RC2
1.80 1.30 1.80 1.80 1.80	1.80 1.80 1.80 1.80 1.80 1.80 1.80 1.80	1.30 1.30 1.30 1.30	1.80 1.80 1.30 1.30	1.60 1.60 1.60 1.60 1.60 1.60 1.60	Ē. 3
50 50 50 100 100 60	100 100 100 100 100 100 100 100 100 100	100 300 300 300 300	250 250 250 75 100 250	600 600 600 600 600 600 600	Hours used annually
20.0 20.0 10.0 10.0 10.0	10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	10.0 6.0 6.0 6.0	10.0 10.0 10.0 10.0	10.0 12.0 12.0 10.0	Years owned
.600 .600 .600		.600	.635 .635 .635 .660	. 680 . 680 . 680 . 680 . 680	ועוא
		. 885 . 885 . 885	.895 .895 .895 .880 .880	.920 .920 .920 .920 .920 .920 .920	12 RPV2
2,110 2,580 690 690 1,660 2,670	500 1,100 6,440 8,280 1,560 3,220 6,440 4,780 4,780 1,050 1,400 1,700	2,676 3,310 3,960 5,060 6,900	30,400 42,300 34,000 9,200 11,000 29,400	6,900 7,820 10,120 20,240 37,720 25,760 37,720 14,200 10,120	Parchase price
000000	000000000000	00000		ب ب ب ب با با با با با	Fuel type
2,000 2,000 2,500 2,000 2,000 2,000 1,200	2,000 2,000 2,000 2,000 2,000 2,000 2,000 2,000 2,000 2,000 2,000	2,000 2,000 2,000 2,000 2,000	2,500 2,500 1,500 2,500 2,500 2,500	12,000 12,000 12,000 12,000 16,000 16,000 16,000 16,000 12,000	Houre of
0000000	0000000000000	00000	1110 121 121 40 50 110	40 50 60 100 92 65 80	B 16

continued

Table 1. -- Machinery complement, Oreyon, 1974 (continued)

		1			
16	ч	0000	00000000	000000000	00 0000000
15	Hours of 11fe	1,000	1,000 1,000 1,000 1,000 1,000	1,000 1,200 1,200 1,500 1,000 1,000 2,000 2,000	2,000 2,000 1,000 2,000 2,000 1,000 1,000 1,000 2,000
14	Fuel	0000		000000000	00 0000000
13	Purchase	830 1,750 640	740 1,840 2,760 2,670 2,920 5,400 6,900	5,980 5,980 3,680 1,380 1,200 1,200 3,400 4,140 6,140 5,000	1,470 2,390 2,840 4,460 4,460 1,200 1,200 740
12	RFV2	.885 .885 .885	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	88 88 88 88 88 88 88 88 88 88 88 88 88	88888888888888888888888888888888888888
11	RFV1	009			009999999999999999999999999999999999999
10	Years	10.0	0.00	10.00 10.00 10.00 10.00 10.00 10.00 10.00	10.0 10.0 10.0 8.0 10.0 10.0 10.0
9 Ноштя	used annually	50 50 50 50	000000000000000000000000000000000000000	50 60 100 50 50 100 100 100 60	100 100 50 100 100 100 50 80
89	RC3	1.80 1.80 1.80	11.80 11.80 11.80	1.80 1.80 1.80 1.80 1.80 1.80 1.80	1.80 1.30 1.30 1.30 1.30
7	RC2	.000251 .000251 .000251	.000251 .000251 .000251 .000251 .000251 .000251	.000251 .000251 .000631 .002510 .000251 .000251 .000251	.000251 .000251 .002510 .002510 .002510 .002510 .0002510
9	RC1	59.		.65 .65 .65 .65 .65 .65 .65	.65 .65 .65 .85 .85 .85 .85 .65
5 Field	eff1- clency	.60 .60 .72	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	27	.83 .80 .80 .67 .80 .80 .75 .75
7	Speed (mph)	3.8	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 44 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
3 Initial	list	900 1,900 700 800	2,000 3,000 2,900 2,900 3,180 5,565 7,500	4,000 1,300 1,300 1,300 1,300 1,000 2,000	1,600 2,600 3,090 4,850 600 3,200 1,300 800
2	Width (ft.)	24.0 50.0 24.0	24.0 24.0 10.0 12.0 24.0 8.0	24.0 30.0 12.0 6.0 10.0 30.0 14.0 12.0	8.0 12.0 7.0 6.0 12.0 12.0 20.0 8.0
٦	Code	57 58 59 60	62 63 64 65 66 67	70 71 72 74 74 77 76 77 78 80	84 85 88 89 90 91 93
Column	Name of machine	Sprayer	Annyarous apparer Dry fert. spreader. Dry fert. spreader. Dry fert. spreader. Drill w/fertilizer. Drill w/fertilizer. Drill w/fertilizer. Drill w/fertilizer.	Drill W/fertilizer. Potato planter Potato planter Digger-inverter Cultipacker Cultipacker Springtooth Springtooth	Offset disk Chisel Sickle mower PTO baler Silage chopper Hay losder Forage wagon Gopher machine Rake

Natural Resource Economics Division, Economic Research Service, U.S. Department of Agriculture, Corvallis, Oregon. SOURCE:

factor represents an estimate of discounts received on machinery purchases, and may vary considerably from year to year and area to area.

- 4. Speed the typical speed the machine travels in the field when performing a task, expressed in miles per hour. Average speeds of machines are found in table 1, page 292, of the Agricultural Engineers Yearbook [1], and on page 5 of Bowers [2]. After review, the average speeds found in these sources were adjusted downward to more closely approximate the actual speeds experienced by farmers in Oregon. In the crop budget generator program, equipment speed determines performance rate per acre unless a tractor is used with custom equipment, as when a farmer uses his tractor with a custom fertilizer applicator; then the performance rate is determined by the tractor speed.
- 5. Field efficiency this variable is the ratio of the actual effectiveness of a machine to its theoretical effectiveness, expressed as a decimal fraction. Field efficiencies of machines are found in table 1, page 292, of the Agricultural Engineers Yearbook [1], and on page 5 of Bowers [2].
- 6. RCl a repair cost variable which is the ratio of total accumulated repair costs to initial list price for the entire life of the machine. The American Society of Agricultural Engineers has adapted the equation used in the budget generating program, and values for RCl may be found in table 2, page 294, of the Agricultural Engineers Yearbook [1], and on page 14 in the Appendix of Bowers [2].
- 7. RC2 a variable that helps determine the repair rate curve for a specific machine. These values are found in the same source as RC1.

- 8. RC3 an exponent variable which, in conjunction with RC2, determines the shape for the repair curve for a specific machine.

 Values for RC3 are also found in the above sources.
- 9. Hours used annually the average number of hours a machine is used each year. Hours used annually varies considerably from machine to machine and farm to farm. The estimates used in the budgets are shown in column 9 of table 1.
- 10. Years owned the average number of years a machine is owned before it is traded or sold. Estimates used in these budgets are shown in column 10 of table 1.
- 11. RFV1 this remaining farm value variable is the percentage of original value that remains after the first year's depreciation occurs, expressed as a decimal fraction. These values are found on Appendix page 41 of Bowers [2], and Section 5.2.1.3, page 289, of the Agricultural Engineers Yearbook [1].
- 12. RFV2 remaining farm value variable, which is a component of the standard double declining balance equation. The values are found in the same source as RFV1.
- 13. Purchase price the actual price paid for a machine. Purchase price data were collected from machinery dealers. For those machines that only list price could be obtained, a factor of .919 was used to estimate purchase price. Again, this factor represents an estimate of discounts received on machinery purchases, and may vary considerably from year to year and area to area.
- 14. <u>Fuel type</u> the type of fuel gasoline, LP gas, or diesel that the machine uses.
- 15. Hours of life this variable is the number of hours of expected mechanical life. These values are found on Appendix page 13 of Bowers [2], and table 2, page 294, of the Agricultural Engineers Yearbook [1].

16. HP - this variable is the drawbar horsepower of tractors and other self-propelled equipment. These data were obtained from the factory specifications.

The data presented in table 1 are used in the crop budget generator program cost equations presented in Appendix I, along with fuel, interest, and insurance costs, to calculate the total fixed and variable costs and the hours per acre performance rates of each item of equipment. Machinery fixed and variable costs and hours per acre performance rates are presented in table 2. Fuel, interest, insurance, and miscellaneous variables used in calculating machinery cost in the crop budget generator program are shown in table 3.

PRICE VECTOR DATA

The price vector data presented in table 4 are stored in a computer file for use in all crop budgets. Use of the price vector technique greatly facilitates updating budgets, because the price data can be adjusted in this file and incorporated into all budgets in a single run of the computer program. Price data included in this file have a 1974 base.

IRRIGATION COST PER ACRE

The present computer program does not have the capability of computing the various variable and fixed costs of on-farm irrigation systems. Therefore, irrigation system costs are calculated for representative acres and entered as cost per acre-inch of water applied. The computer program multiplies the acre-inch costs by the number of acre-inches of irrigation water used, shown on line 49 of the C tables, to arrive at the irrigation system costs per acre for fuel, repairs, ownership, and capital. Acre-inch costs for depreciation, interest, , repair, and fuel of the irrigation systems used in the budget are shown in table 5.

Table 2.--Machinery fixed and variable costs per hour, Oregon, 1974

	Code Depreciation	Interest	Insurance	Так	Total	Repair	Fuel	Lubricant	Total variable	Hours per acre
			3	cost per hour	II					
		.608	970.	.115	.941	.495	.860	.129	1.483	1,000
		689*	.052	.130	1.067	. 561	1.174	.176	1.911	1.000
		.891	.067	.169	1.381	.726	1.363	.204	2,293	1,000
		1.716	.129	.337	2.513	1.619	2,481	.372	4.473	1.000
3.615		5.193	0.42.	.629	4.684	1.270	2,283	.342	3.895	1.000
7 3.815		3.198	.240	624.	3.199	1,270	1,538	.231	2.636 3.805	1.000
		1,250	094	.237	1.939	1.016	1.968	.295	3.280	1.000
9 1.145		.891	.067	.169	1,381	.726	1,363	204	2,293	1.000
9.396		5.970	.448	1,216	11.059	4.353	4.934	.740	10.026	.293
13,067	တ	.309	.623	1.692	15.382	6.067	5.427	.814	12,308	.257
10.501	6.	6.680	.501	1.360	12,362	4.880	5.427	.814	11.121	.228
9.816	ν.	5.887	.442	1.227	11.484	.541	1.678	.252	2,471	.198
18 9.080 5.282 18 9.080 5.776	5.7	376	.396	1.100	10.290 10.689	.708	2.162 5.080	.324	3.194 10.063	.170
30 2,157 1,2	1.2	173	.095	.267	2,520	.235	0	C	235	678
1,262	5.	80	.043	.110	1,416	.349	0	0	.349	.512
1.511	69.	13	.052	.132	1,695	.416	0	0	.416	.407
1.930	88	91	990.	•169	2,165	.532	0	0	.532	. 339
34 2.632 1.208	1.2	08	.091	.230	2.953	.726	0	0	.726	.204
	.26	2	.020	.055	•519	.172	0	0	.172	.238
. 888	.52	2	.039	.110	1.037	.344	0	0	.344	.119
	0.0	17	.230	. 644	6.076	1.306	0 0	0	1.306	.145
1.250	7.0	55	967.	879.	1 471	1.h/y	> 0		1.6/9	.109
2.601	1.5	36	.115	.322	3.038	.653	0 0	0	.653	.248
5.202	3.0	171	.230	444	6.076	1,306	С	0	1,306	.124
3,393	1.9	63	.147	.415	3.955	.798	0	0	.798	.104
3.860	2.:	280	.171	.478	4.509	.970	0	0	.970	690°
4.604	2.7	19	.204	.570	5.377	1,156	0	0	1.156	.059
	. 2(01	.015	.042	.396	980*	С	0	980*	.234
. 564	e.	34	.205	.070	.659	.144	0	0	.144	.140
. 845	• 5()2	.038	.105	.988	.216	0	0	.216	°094
1.128	99.	69	.050	.140	1.318	.287	0	0	.287	.070
49 1,369 .8	Ψ,	312	.061	.170	1.600	. 349	0	0	.349	•026
1,990	1.	784	.134	.422	2.546	.660	0	0	099*	.159
2.434	2	2,181	.164	.516	3.114	.803	0	0	. 803	.119
52 1.115		.658	.049	.138	1,302	.011	0 0	0 0	.011	.276
/66*	•	323	670.	• 00%	TCQ*	c17 •	Þ	٥	CT7*	676.

continued

Table 2 .- - Machinary fixed and variable coers per hour, Oregon, 1974 (continued)

					ą	61.00					the first of
Machine	BDGG	neblecration	THEGIST	THRUEBICE	×	DOXET	Mehari	Fuel	Lamfacant	Variable	acre
		and the first and the first time that the first time the first time time.		3	cost per he	hour				and the same has been dear our trap over two dates	
Row cultivator		1.342	.791	.059	, 166	1.567	.517	0	0	.517	. 286
cultivator	5.5	2.157	1.273	.095	.267	2.520	.832	0	0	.832	.215
Willer	56	1,480	.875	.066	.183	1.729	. 528	C	0	.528	. 257
	57	1. 342	. 791	.059	.166	1,567	. 336	0	0	. 336	. 151
		2.828	1.669	.125	. 350	3.303	.709	0	0	. 709	.072
Anhydrous applicator		1.032	.611	.046	.128	1.206	.261	0	0	. 261	.119
Anhydrons applicator		1.197	. 705	.053	.148	1. 398	.298	0	0	,29R	.095
Dry fertilizer spreader		1.115	.658	.049	.138	1. 302	. 280	=	0	.280	.358
fertilizer		2.973	1.755	.132	. 368	3.472	. 146	0	0	.746	.119
fertilizer		4.459	2.612	.197	.552	5,208	1.119	0	0	611.1	.084
	64	4.314	2.546	.191	. 53%	5.039	1.082	0	0	1.082	.286
	65	4.715	2.786	.209	.584	5.508	1.186	0	0	1,186	.239
w/fertilizer	66	8.832	5.107	. 383	1.080	10.295	2.076	0	0	2,076	.119
w/fertilizer	67	11.147	6.581	.494	1.380	13.021	2.798	O	0	2.798	.080
w/fertilizer		3.262	1.927	. 145	.404	3.810	. 821	0	0	.821	.358
Drill w/fertilizer	69	7.721	4.560	. 142	.956	9.019	1.9%0	o	0	1.940	.119
	70	9,661	5.704	.428	1,196	11.285	2.425	0	٥	2.425	.095
Potato planter	71	4.954	2.925	.219	.613	5.787	1.759	0	0	1.759	167
planter	72	10.528	6.215	.466	1.303	12,298	3.719	0	0	3.739	.257
-inverter		1. 302	.687	.052	. 1 38	1.491	.273	0	0	.273	.603
0		1.940	1,144	.086	.240	2.266	.746	0	0	.746	.25H
		. 378	.222	.017	.047	.442	.177	0	0	.177	.103
Cultipacker	76	5.491	3.243	.243	.680	6.415	2.123	0	0	2.123	.086
Tandem disk	77	3.344	1.974	.148	.414	3.906	.839	0	0	.839	.177
•		.743	.439	.033	.092	.868	.187	0	0	.187	.117
Culti-mulcher		1.897	.878	.066	.167	2.129	2.526	0	0	2.526	. 215
•		2.477	1.462	.110	.307	2.894	.880	0	0	.880	.257
Offset disk	84	1.187	.701	.053	.147	1.387	. 298	0	0	. 298	. 327
Chisel	85	1.930	1.140	.085	.239	2.255	.485	0	0	.485	.210
Sickle mower	87	1.435	.754	.057	.166	1.657	.131	0	0	.131	. 338
Potato baler	88	2.736	1.396	.105	. 284	3.125	.100		0	.100	.684
chopper		3.852	2.027	.152	.446	4.451	.167	0	0	.167	.246
Hay loader	90	.559	.261	.020	.055	. 634	.056	0	0	.056	.645
Forage wagon	91	2.539	1.336	.100	.294	2.933	.110	0	0	.110	.246
Copher machine	92	2.074	1.090	.082	.240	2.396	.485	0	0	.485	, 138
Rake	93	1.069	.498	.037	.105	1.211	.080	0	0	.080	.306
	9,	1.197	. 705	.053	. 148	202	2 10	0	0	,016	. 331

Table 3.—Default parameters used in computations of machinery and other costs, Oregon, 1974

Item	Code number	Value
Price per gallon of gasoline	1	.46
Price per gallon of LP gas	2	.21
Price per gallon of diesel	3	.35
Interest rate	6	.08
Insurance rate (price/dollar of average investment insured)	7	.0006
Tax rate (price/dollar of purchase value)	8	.01
Price of machinery labor/hour	10	3.00
Price of other labor/hour	11	3.00
Price of irrigation labor/hour	12	3.00
Equipment insurance rate (price/dollar of average investment)		.06
Equipment tax rate (price/dollar of average value)	17	.01
Factor by which machine hours are multiplied to obtain tractor hours.	19	1.1
Factor by which tractor hours are multiplied to obtain machinery labor	20	1.1
Factor by which self-powered machine hours are multiplied to obtain self-powered machinery labor	21	1.2

SOURCE: Natural Resource Economics Division, Economic Research Service, U.S. Department of Agriculture, Corvallis, Oregon.

Table 4.—Oregon price vector, 1974 base

Item	Unit	Code number	Price
			dollars
Rye grass seed	lbs.	48	.156
Rye grass pasture	AUMs	49	4.50
Clover-timothy hay	tons	50	20.00
		51	23.00
Rotation hay	tons		
Small grain hay	tons	52	26.56
Wild hav	#^nS	53	10.50
Onions	CWE.	54	1.90
Custom onion seeding	acre	55	19.00
Hops	lbs.	64	.57
Sugar beets	tons	65	19.31
Potatoes	CWE.	56	2.50
Dry peas	CWE.	67	4.53
		69	165.00
Sush beans	tons	09	103,00
Winter barley	bu.	71	1.58
Spring barley	bu.	72	1.58
Dats	bu.	74	.97
Vinter wheat	bu.	76	2.64
Spring wheat	bu.	77	2.64
alfalfa har	tons	81	36.70
Alfalfa hay		82	.385
Alfalfa meed	lba.		
Corn silage	tons	85	11.55
Sweet corn	tons	86	40.00
Seed corn	CWI.	37	16.00
Field corn	bu.	88	2.04
Clover grass hay	tons	90	35.00
Clover grass silage	tons	91	11.50
Clover grass pasture	AURis	92	5.00
Park Mara madaha	lbs.	98	. 368
Beef, live weight			
Rye grass seed	lbs.	148	.27
Timothy seed	lbs.	149	.28
Rad clover seed	lbs.	150	.54
Small grain hay seed	lbs.	152	.06
Sugar beet seed	lbs.	165	2.20
Seed potatoes	CWI.	166	2.30
Dwy nee good	cwt.	167	5.00
Dry pea seed		163	12.00
Dry bean seed	CWE.		
Winter barley seed	lbs.	171	.08
Spring barley seed	lbs.	172	.08
Oats seed	lbs.	174	.09
Winter wheat seed	lbs.	176	.103
Spring wheat seed	lbs.	177	.103
Alfalfa seed	lbs.	131	.64
Corn seed	lbs.	135	.241
Corn seed			.90
Sweet corn seed	lbs.	136	
Rye grass seed	lbs.	189	27
Orchardgrass seed	lbs.	190	.65
New Zealand white clover seed	lbs.	191	2.00
Lotus major big trefoil seed	lbs.	192	2.25
Inoculate	lbs.	201	1.53
	155.	209	.03
Gypsum (CASO ₄ ,2H ₂ 0) Sulfur		210	.11
No. 1 To 1	lbs.	212	.25
SULLUE	3.3		
Nitrogen	lbs.		
Nitrogen	lbs.	213	.23
Nitrogen			

continued

Table 4.-Oregon price vector, 1974 base (continued)

Item	Unit	Code number	Price
			dollars
Lime	lbs.	220	.012
2-4-D herbicide	lbs.	251	2.81
Sinox	lbs.	256	3.40
Avadex	lbs.	257	5.41
	lbs.	258	2.95
Diyrow		259	
Treflan	lbs.		7.13
Karmex	lbs.	260	2.95
Loso herbicide	lbs.	261	4.55
Bladex herbicide	lbs.	252	3.30
Comite insecticide	lbs.	263	5.11
falathion insecticide	lbs.	264	3.63
Burn residue	acre	299	2,60
Potato vine removal	acre	300	7.20
Custom haul	bu.	302	.10
Sweet corn picking & hauling	tons	303	10.30
		= :-	
Corn stalk topping	acre	304	4.30
Custom combine	acre	305	14.50
Custom combine corn	acre	306	35.00
Alfalfa establishment	асте	307	11.60
Rotation alfalfa establishment	acre	308	19.30
Clover-timothy hay establishment	acre	309	14.50
Clover-grass hay establishment	acre	310	14.50
		312	
Custom haul	CWE.		.15
Custom haul	tons	322	3.00
Custom sugar beet seed	acre	345	3.50
Custom insect control	acre	346	11.60
Weevil control	acre	347	8.30
Custom insect control	acre	348	2.00
Custom sugar beet haul		349	1.50
	tons		
Custom sugar beet top, dig, & load Custom seed potato cut & treat	tons cwt.	350 351	1.50 2.80
docum occu podaco dae a cadacerrer	0	332	2.00
Repair irrigation sprinklers	scre	355	7.35
Custom planting	acre	358	3.70
Cassling seed corn	acre	360	90.00
Custom fertilizer spplication	acre	361	2.60
Custom weed control	acre	364	2.85
Custom weed control, sugar beets	acre	365	10.00
Custom weed control, onions & alfalfa			
seed	acre	366	13.80
Custom stubble buster	acre	368	3.70
oitch repair	acre	369	13.80
lfalfa defoliation	acre	370	4.80
Rodent control	acre	371	1.80
Custom airplane spray		372	2.50
	acre		
custom spray	acre	373	2.60
dustom herbicide	acre	374	2.20
ustom herbicide	acre	37.5	9.50
otato digging	cwt.	376	.25
hin & weed	acre	377	31.00
dustom hoe	acre	378	16.80
umigation	acre	379	162.00
op onions	cwt.	380	.28
arvest onions	cwt.	381	.24
mion storage		382	.12
_	cwt.		
Ifalfa seed bee habitat	acre	38 3	6.90
ag & tag alfalfa seed	CWE.	384	1.25
ustom swathing	acre	385	4.50
Sustom baling	tons	388	7.35
Custom stack	tons	389	4.50
Custom remove & stack	tons	390	6.50

SOURCE: Natural Resource Economica Division, Economic Research Service, U.S. Department of Agriculture, Corvallis, Oregon.

Table 5.--Irrigation system costs and labor requirements, by acre inch

Irrigation system	Code	Depreciation	Interest	Total fixed	Repair
			st per acre	e inch	
Hand move	1	.025	.22	.245	.013
Side move	2	.047	.40	.447	.024
Side move tow	3	.047	. 40	.447	.024
Self-propelled	4	.055	.47	• 525	.028
Surface	5	.022	.19	.212	.011
CTO AND ALC CTO CTO CTO CTO CTO	Code		Fuel	Total variable	Hours
Hand move	1		.076	.089	.211
Side move	2		.142	.166	.063
Side move tow	3		.142	.166	.047
Self-propelled	4		.166	.194	.022
Surface	5		.066	.077	.123

SOURCE: Natural Resource Economics Division, Economic Research Service, U.S. Department of Agriculture, Corvallis, Oregon.

IRRIGATION LABOR

Irrigation labor is entered as hours per inch of water applied. The computer program multiplies hours per acre—inch by the acre inches of water applied to obtain total hours of labor required per acre. Irrigation labor cost per hour, listed as default parameter 12 in table 3, is then multiplied by total hours to obtain irrigation labor cost per acre. Labor requirements, by irrigation system, are shown in the last column of table 5. Type of irrigation system must be specified in each budget.

LIMITATIONS

It is recognized that the crop enterprise budgets do not cover all of the tillage practices in an area, or the alternative tillage practices used on a particular farm from year to year. Each budget represents a specific set of assumptions, with respect to production practices and yield levels, that might be expected with current levels of management and technology in a land resource area. Thus, the crop production cost data associated with land resource areas are likely to be most useful in "making first approximations" when evaluating production opportunities. This does not negate the value of the budgets for planning, because they contain some of the basic data that allow a systematic framework to be used in evaluating alternative uses of farm resources.

These budgets are partial budgets, as they do not include irrigation water, land, and overhead costs, nor are the taxes varied to reflect local differences in tax rates. Costs associated with these items vary considerably by location, source of irrigation water, farm size, level of management, etc. Excluding these costs results in a better evaluation of the relative efficiency of resource use. Measuring relative efficiency of resource use is essential to determining optimum resource combinations to produce given levels of production.

Performance rates of the various equipment were held constant across all crops and soils. The use of an average performance rate for all crops and soils was necessary, due to limited performance rate data. Further, presenting data in the various tables to two and three decimal places was done merely for mathematical convenience, and does not imply that degree of accuracy.

CROP BUDGETS

Three tables are presented for each crop budget. The first, labeled A, shows a detailed breakdown of the costs and returns per acre of crop.

The B tables show only variable preharvest and harvest costs. The C tables

present the input data to the crop budget generator program, by month, in a production cycle.

As an example of data presented in all budgets, table 6A is a budget for producing irrigated improved clover-grass hay in Land Resource Area 001. For this crop, value of production is shown as \$204.75 per acre. Total operating costs, total interest charges on capital, total ownership costs, and total labor costs are \$69.69, \$11.04, \$12.20, and \$18.07 per acre, respetively. Net returns are shown in progressive breakdowns, with returns to water, land, overhead, risk, and management being \$93.75 per acre.

Table 6B presents more detailed variable cost information for both preharvest and harvest costs. Interest charges on capital, ownership costs, and value of production are omitted from this table. Total variable preharvest and harvest costs are \$58.59 and \$31.50 per acre, respectively.

Table 6C presents crop production, purchased operating inputs, machinery requirements, and irrigation water use per acre, by month. Monthly data are necessary for the annual operating capital calculations in the crop budget generator program.

Table 6A

IPRIGATED CLOVER-GRASS HAY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA OUT OPEGON COORDINATED COMPREHENSIVE UCINT PLAN, PACIFIC MORTHWEST RESION

CATEGORY	UNITS	SOICE	PUANTITY	PLJE
PRIQUETION CLOVER-GRASS MAY CLOVER-GRASS PAS CLOVER-GRASS SIL TOTAL PECEIPTS	TON AUMS TON	35,000 5,000 11,530	3.000	51,25 40.00 103.50 204.75
COMPATING INPUTS COSTOM BALING MITPOGEN PACT PEPAIR COST TRACTOR FUEL COST TOTAL CREPATING COST	TON LASS. LON RE ACCRE A	7.350 .290 .231 6.500	60.000	12.86 23.53 13.75 1.37 1.50 1.50 1.35 1.36 1.37 1.37 1.37
PETURNA TO LANO,LABOR,CAPITAL,MACHINERY THE BOALAN CHA, >> CHA, > CHA + CHABHERY	,WATER,			135.06
CAPITAL COST ANULAE OPERATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT IPRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		- 0 70 - 0 90 - 0 90 - 0 90	20.137	2.35 1.61 1.76 5.32
PETUPNS TO LAND, LABOR, MACHINERY, WATE OVERHEAD, RISK AND MANAGEMENT	٥,			124.02
OWNERSHIP COST (DEPRESIATION, TAXES, INSURANCE) TRACTOR EQUIPMENT IRRIGATION SYSTEM TOTAL CAMERSHIP COST	07L. 00L. 07L.			2.50 7.76 5.94 12.20
RETURNS TO LAND, LARDR. OVERHEAD. WATER	1		*	111.32
LAROR COST MACHINERY LABOR IRRIGATION LABOR TOTAL LABOR COST	н२. н≈.		2.379	7.74 10.33 18.37
PETURNS TO LAND, OVERHEAD, WATER. PISK AND MANAGEMENT				93.75

DOURCE: MATURAL RESOURCE ECONOMICS DIVISION, ERS. USDA. CORVALLIS. OPEGON MACHINERY OPERATIONS RASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

ALOGET IDENTIFICATION NUMBER --- RO 120000 15151

Table 6B

IPPIGATED CLOVER-GRASS HAY: PRODUCTION COSTS AND RETURNS LAYO RESCURCE AREA 361 OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST RESIDN

CATEGORY	UNIT	OUSHTITY	PRICE	141JE
			00LL125	10LL475
REHAPMEST COSTS				
MICHIMERY LABOR	4002	1.300	3.000	3,899
IPRIGATION LABOR	HUUS	3.444	3.000	10.338
VITROSEN	LBS.	94.333	. 293	23.520
on-20-105A2	LBS.	50.303	. 233	13.500
TPACTOR FUEL LURG AND REPAIRS	ACPE	1.000	2.259	2.25
EQUIPMENT FUEL LUBE AND REPAIRS	ACPE	1.393	.301	.311
TPPICATION FUEL LUPE AND REPAIRS	ACPE	1.000	2.155	2.156
INTEREST ON OPERATING CARITAL		23.994	. 740	3.71
CTAL PREHARVEST COSTS	40 RE			53.53
49 VEST 00913				
MACHINERY LABOR	4002	1.283	7.250	3.23
CUSTOM BALING	TON	1.750	7.393	
SUST STACK MOV.	TON	1.753	6.500	11.37
TRACTOR FUEL LURE AND REPAIRS	ACRE	1.980	2.223	2.22
EDUTEMENT FREE FRAE THO BEBRISS	ACRE	1.303	1.197	1.13
TAL HARVEST COSTS				
OES MARVESTED ACSETACE)	ACRE			31=
CTAL HARVEST COSTS				
> 15 -44.4521 01212	4325			319
CTAL VARIABLE COST PER PLANTED 109E	ACRE			90.03
Alefi ses 475AEC1	F1 409F	1.757 104		
AIEFO SES STYVIED				
SUPSE: MATURAL RESOURCE ECONOMICS DIV				

MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 6C

=	
BUDGFT RECORD NUMBER	
ANNUAL CAPITAL MOUFU 8	
AUGUET THENTETCATION NUMBER 90 120000 15151	

=

IRRIGATED GLOVER-GRASS HAY! PRODUCTION COSTS AND METURNS LAND RESOURCE AREA 001 OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

	→	C 1	Ş	Ĵ	5	٤	7	T	b	10	11	1.2	1 3	14 15	15	16	17	1.4
	JAN	= u	MAR	→ d Ø	Mn Y	JUN	JUL	406	SEP	100	110 V	DEC	PRIGE	WEIGHT	UNIT	ITEM	TYPE CONT	CONT
LIME															CODE	0000	:	
PRODUCTION					NUMBER OF UNITS	OF U	SIIN											
1 CLOVER-GRASS HAY	a	=	0	0	0	0		1.75		0	0		55.000			0.5	2	5
2 CLOVER-GRASS PAS	=	0	. 50	1.00	1.00	1,00		1.00		1.00	. 50	0	5.000	0	1.0	42	2	
3 MINVER-GOASS SIL	0	0	0		4.00	0		0	0	a	0		11.500	0		91	~	· C
OPERATING TAPUIS					RATE	RATF/UNIT							PRICE	NUMBER	UNIT	ITEM	EYPE	CONF
														UNITS CODE	CODE	COOF		
11 CUSTON BALING	0	0	ټ	0	0	0		1.75	0	0	0	0	7.350	0	3	388	m	_
12 NIBOGEN	0	7	0 13,00	0	0	0		0	4.9.00	0	C	0	.240	a	12	212	٣	0
1 4 PHOSPHORUS	0	0	0	C	0	0	n	0 60.00	00.09	9	0	0	.230	0	1.2	213	₹	0
14 CUST STACK MOV.	0	0	0	0	0	0		1.75	0	0	Ç.	0	6.500	0	£.	390	1 2	6
NACHINERY REJUIRSMENTS	S					TIMES	OVER						XXXXX	XXXXX POWER	POWER	MACH	TYPE	CONT
															UNIT	COUE		
SH DOY FERT SPREAD	0	0	1.00	0	0	0	1.00	0	1.00	0	0	9	0	0		6.1	ţ	f)
S9 SICKLE MOJER	0	0	C	0	0	0	0	0/.	0	0	0	0	0	0		8.7	Ţ	÷
LD 20K3	0	С	0	9	0	0	0	1 . 10 1)	0	0	9	0	0	0	7	6) }	Ĵ	7
41 STEAGE CHOPPER	0	3	9	0	. 91)	0	0	0	9	0	7	0	0	0		89	4	7
42 FORACE WAGON	0	2	Ü	0	. 80	0	0	n	0	0	0	0	Ð	0		9.1	4	6
	4	c		4	d	0	:											
ALLEN LYELL MALLY	₽	=		~	0	M . U U	8.30	0 8.00 8.30 10.00 2.60	2 . 00	0	-	=						

SOURCE! NATURAL RESOURCE FCONOMICS DIVISION, EMS, USDA, CORVALLIS, ORFSON MACHIRERY OPERALLONS BASED ON DAFA DEVELOPLD BY THE SOIL CONSERVATION SERVICE

Table 7A

NON-EPPEGATED IMPROVED CLOVER-GRASS HAY-ORYCAND; PRODUCTION COSTS AND REFLANC LAND RESCURCE AREA GOT OREGON COORDINATED COMPREHENSIVE UCINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNITS	PPICE	UNTALILA	VALUE
200010150N				
CLOVER-GRASS MAY	TON	75.000	2,383	75.00
CLOVER-GRASS PAS	AU 43	5.033	2.030	10.20
TOTAL PEGESPIS				30.00
CHERTIAS INBUTS				
EAE CLYSS 2EED	L35.	.270	3.003	.31
0F044P0_0RASS_SE	L3S.	.650	12.000	7.83
CUST. FEST. APO.	40 PF	2.500	1.303	Z. ±n
CLSTOM PLANTING	40 PE	3.733	1,000	7,70
TUSTOM PALING	TON	7.353	2.300	177
NETROSEN	135.	.230	-3.310	11.20
=-325H35d2	L3S.	.233	90.000	12.43
FITASTIV	L3S.	.150	99.558	12.10
TEM TELAMO WHICH LOTUS MAUGE SEED	135.	2.000	3.000	2.30
0.5T ST40K MOV.	LBS. TON	2.250	1 3 3 3 3	2.25
TRACTOR FUEL COST	4C2E	5.510	2.503	7,13
TPSOT REPAIR COST	4005			1.47
TP10709 LUBE 0057	10 RE			
E0110 0E010 0051	208E			0.45
TOTAL OPERATING COST				100.34
PETURNO TO LAND, LABOR, CAPITAL, MACHINER	Υ,			
CAESHEAD AIRK CAND ANAREAEAL				-21.3-
CARITAL COST				
ANNUAL OPERATING CAPITAL		. 3 3 3	A1.971	01
TRACTOR INVESTMENT		.090	22.507	1,21
ECUIPMENT INVESTMENT		. 0 9 0	27.515	2.20
TOTAL INTEREST CHARGE				2,27
PETURNS TO LANCE 1430P, MACHIMERY, CAFRHEAD, RISK AND MANAGEMENT				-29.70
ATTENDA KISK HUNGATANG				7 2 7 4 1 4
CHMERS-IR FOST (CERRECIATION,				
11:55. (NSURANCE)				
12:010	DOL.			2.32
EDJOHENT	201.			4.55
TOTAL DANFPSHIP COST				7,75
FETURES TO LAND, LAROR, OVERHEAD,				
PIEK AND MANAGERENT				-7-,-=
_410P				
# _n= * 4F0 Y _ 11900	40 ·	3.230	2.339	2.67
1111 1411 3011				4 . ~ ~
PETURNS TO LAND, OVERHELD.				
SIZK TAND MANACEMENT				5.72

TO POE: MATURAL PESCURGE FOOMOMICS DIVISION, FRS. USDA. DORNALLOT, DEFOCA

FUNDER INFARIFICATION CHAPPS ARE ON 121310 12182 111,41 SEPIESE 42454 O

Table 7B

NCM-IRPIGATED IMPROVED CLOVER-GRASS HAY-DRYLAND& PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA OOL DREGON PRODUCTION COSTS AND RETURNS CORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATEGORY	TIMU	QUANTITY	beige	VALUE
			DOLLAPS	DOLLAPS
PREHARVEST COSTS				
MACHINERY LABOR	HOUR	1.740		5.219
PYE GRASS SEED	F32*	3.000	. 279	.910
ORCHARO GRASS SE	L3S.	12.000	• 650	7.800
CUST. FERT. APP.	ACRE	1.000	2.500	2.600
CUSTOM PLANTING	40 RE	1.000	3.700	3.730
NITROGEN	L3S.	40.000	. 230	11.200
PHOSPHOPUS SUPPLIES	L35.	30.000	.23C	13.400
POTASSIUM	L35.	30.000	• 150	12.000
NEW ZELAND WH.CL	Las.	3.000	2.300	5.000
LOTUS MAJOR SEED	L3S.	1.003	2 • 25 0	2.250
TRACTOR FUEL LUBE AND PEPAIPS	7CoE	1.000	3.023	3.323
EQUIPMENT FUEL LUGE AND REPAIRS	ACRE	1.000	1.923	1.929
INTEREST ON OPERATING CAPITAL		51.971	.030	4.958
CTAL PREHARVEST COSTS	ACRE			79.337
APVEST COSTS				
MACHINERY LARDR	H0U2	1.149	3.100	3.447
CUSTOM BALING	TON	2.000		14.738
CUST STACK MOV.	TON			13.000
TRACTOR FUEL LUBE AND REPAIRS		1.000		
SSIAGE CHA BELL LIBUR THEMPILE	ACRE			
	40 (5	14406		*****
OTAL HARVEST COSTS	10.05			2. 42.
PEP HARVESTED ACPF(100)	7C SE			
OTAL HARVEST COSTS				
DES SETANTED YCSE	ACRE			34.074
OTAL VARIABLE COST PER PLANTED ACRE	ACRE			113.951

TIZED PRE HARVESTED ACRE 2.000 TON

VIELD PER PLANTED ACRE 2.000 TON

SCURCE: NOTURAL RESOURCE ECOMPONION : PSS, USCA, COPVALLIS, CREGON
FOLHORY OPERATIONS BASED OF THE CORCERVATION SERVICE

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SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, FRS, USAB, FORVALLIS, ORFERN MACHINERY OPERATIONS BASED ON DATA OFVILOPED BY THE SUIL CONSERVATION SERVICE

Table 8A

NON-IRPIGATED IMPROVED CLOVER-5RASS HAY-DRYLAND: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 301 ORESON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATESCRY	UNITS	PRICE	SUANTITY	VALJE
PRODUCTION CLOVER-GRASS HAY CLOVER-GRASS PAS TOTAL RECEIPTS	TON AU 45	₹5.000 5.000	2.500	
CPEPATING INPUTS CUST. FERT. APP. CUST. AEED CONT. CUSTOM BALING NITROGEN PHOSPHORUS CUST STACK MCV. TRACTOR FUEL COST TRACT REPAIR COST FOULP REPAIR COST	ACRE ACRE TON LBS. LBS. TON ACRE ACRE ACRE ACRE	2.530 2.350 7.350 .230 .230 6.500	2.000 1.000 2.500 55.000 70.000 2.500	7.20 2.35 18.36 15.36 16.25 1.23 .39 .13 .93 77.38
PETURNS TO LAND, LABOR, CAPITAL, MACHINERY, OVERHEAD, PISK, AND MANAGEMENT				40.12
CAPITAL COST ANUMAL OPERATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT TOTAL INTEREST CHARGE			17.517 3.992 5.994	1.40 .72 .56 2.63
PETUPNS TO LAND, LABOR, MACHINERY, OVERHEAD, PISK AND MANAGEMENT				37.44
OWNERSHIP COST (DEPRECIATION, TAXES, INSURANCE) TRACTOR EQUIPMENT TOTAL OWNERSHIP COST	00t. 30t.			1.11
PETURNS TO LANC, LAROR, OVERHEAR, RISK AND MANAGEMENT				75.02
LAPOP COST MACHINERY LABOP TOTAL LABOR DOST	Η ? .	3.000	1,149	3.45 3.45
PETUPNS TO LAND, OVERHEAD, TO LAND MANAGEMENT				31.58

SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, EPS, USD4, CORVALLIS, OPEGON MACHINERY OPERATIONS BASED ON 0414 DEVELOPED BY THE SOIL CONSERVATION SERVICE

BUDGET ISSNITETDATION NUMBER --- 93 100000 10150 ANNUAL CAPITAL 40NTH 7

Table 8B

NOA-TRPIGATED IMPRONED CLOVER-GRASS HAY-DRYLAMD; PROCUCTION COSTS AND RETURNS LAND RESCURDE AREA 301 OREGON CORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST RESIDM

CATEGORY	TINU	SATALILA	9910E	VALUE
			00tt#28	70L 42S
PPEHARVEST COSTS				
MACHINERY LABOR	4002	.409	3.090	1.228
CUST. FERT. APP.	4095	2.300	2.500	5.200
OUST. WEED CONT.	ACRE	1.903	2.950	2.350
NITPOGEN	LBS.	55.003	. 233	15.530
thus brub.12	L3S.	70.000	. 233	15.130
TRACTOR FUEL LUBE AND REPAIRS	±0∓E	1.000	. 711	.711
FOULPMENT FUEL LUBE AND REPAIRS	40 PE	1.000	4-5	5
INTEREST ON OPERATING CARSTAL		17,837	. 083	1.+01
TOTAL PREHARIEST COSTS	3 C P E			43.815
HAR VEST COSTS				
MACHINERY LABOR	-00°	.739		
CUSTOM BALING	TON	2.500		
CUST STECK MC4.	TOM	2.500		
TRACTOR FUEL LUBE AND REPAIRS	#0RE	1.003		
EQUIPMENT FUEL LUSE AND REPAIRD	#09E	1.303	. 485	36
TOTAL HARVEST COSTS				
PER MARKET SOACOE (100)	109E			33.51-
TOTAL MARYEST COSTS				
DED BETALES 4035	ACPE			33.514
TOTAL VAPIABLE COST PER PLANTED ACRE	705E			32.229
ATERO SEE HARAERIE	n ADRE	2.=30 774		
AIERD SES STANLES	10PE	2.500 100		

YIELD PER PLANTED ADRE 2.500 TOM
SCUPCE: NATURAL RESOURCE ECONOMICS DIVISION, EPS. USDA. CORVALUES. DREGON
HACHIVERY OPERATIONS PASSED ON DATA DEVELOPED BY THE COLL CONSERVATION SERVICE

Table 8C

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ANN	NON-IRPIGATEN IMPROVED CLOVER-GRASS HAY-DRYLAND: PRODUCTION COSTS LAND RESOURCE AREA DUI OREGON COORDINATED COMPPEHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION	8 0		(-	0			1.00	0	0	16.00	20.00	0			0	0
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ATION !	NON-IRMIGATEN IMPROVED CLOVER LAND RESOURCE AREA DDI OREGON COORDINATED COMMPEHENSIVE JOI	S 3 FIGA MAR		(_	Ω			0	ణ	0	0	O	0			0	0
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AUDGET TOENTIFICATION NUMBER			LINE	PRODUCTION	1 CLOVER-GAASS HAY	2 CLOVER-GRASS PAS	SINGNI UNITAGO		11 CUST. FFRT. APP.	12 CUST, WFE & CONT.	13 CUSTOM MALING	14 MITPACEN	15 PHOSPHOPUS	LE CUST STACK MOV.	MACHINERY REDUIREMENTS		3ª SICKLE MOWER	A S RAKE

SOURCE! NATURAL RESOURCE FCONOMICS DIVISION, ERS, USDA, CORVALLIS, ORFGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 9A

IRRIGATED 164161 44Y: PRODUCTION COSTS 1ND RETURNS 600PDINATED DOMPREHENSIVE JOINT REAM, RACIFIC MORTHHESE REGION

CATEGORY	JMITS	PRICE	OUZHTITY	/ALUE
PPODUCTION ALFALFA HAY TOTAL PEDEIPTS	TON	36.700	5.010	183.80
OPERATING INPUTS TULFUR PHOSPHOPUS SYPSUM CUST. THS. CONT. CUST. HERBICIDE ALFALFA ESTAR. CUST SIACK MOV. TRACTOR FUEL COST TRACTOR FUEL COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR FUEL COST	1989 - 19	.110 .230 .030 2.000 2.200 :1.400 5.500	39.303 40.000 150.000 1.000 1.000 1.000	2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
CAPITAL COST AND ALL COST TRACTOR INVESTMENT EQUIPMENT INVESTMENT LIRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE	, 4TE9,	.0 % 0 .0	37.590 34.316 53.693 90.290	7.31
PETURNS TO LANC, LARGE, MACHINERY, MATER	,			66.20
TOTAL OWNESSAIP COST TOTAL OWNESSAIP COST	00L. 00L.			3.57 13.51 9.26 29.53
PETUPNS ID LAND, LABOR, OVERHERD, HATER,				77,44
LAPOP COST HACHINERY LABOP TOTAL LABOP COST	₩D.	7. 330 3. 373	4,357	
PETURNS TO LAND, OVERHEAD, HATER,				= ~

SCHECE: MATURAL RESOURCE FORMOMION DIVISION, FRO. SP4, CORVALLIA, TRETOM MICHIMERM ORBERATIONS RASED ON DATA DEVELORES BY THE TOIL CONSERVATION SERVICE

PROSET IDENTIFICATION NUMBER --- R1 0-3000 1F180 ANNUAL CARITAL MONTH R

Table 9B TRAIGATED ALFALFA HAY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 0.02 OPEGON CONTINUES CONTINUES OF TRIBUTION OF THE PRODUCTION OF T

CATEGORY	דואט	OUANTITY	PPIGE	A7FAE
			DOLLAFS	POLLAPS
PEHAPVEST COSTS				
MACHINERY LABOR	HOUR	.857	3.000	2.600
IRPIGATION LABOR	40U2	4.674	3.000	14.022
SULFUS	L3S+	39.000	. 113	4.290
Shuding School	⊾ 35.	50.000	• 230	13.900
SASCA.	L3S+	150.000	. 030	+.500
CUST. INS. CCNT.	ACRE	1.002	2.003	2.000
CUST. HERBICIDE	∆C ⊃ ⊂	1.000	2,200	
ALFALFA ESTAR.	ACRE	1.000	11.600	11.600
TRACTOR FUEL LUGE AND REPAIRS	40 RE	1.000	3.524	3.524
EQUIPMENT FUEL LURE AND REPAIRS	4CRE	1.300	. 230	.200
IRPIGATION FUEL LURE AND REPAIRS	ACRE	1.000	2.925	2,926
INTEREST ON OPERATING CAPITAL		12,719	. ପ80	1.013
TAL PREHARVEST COSTS	AC PE			52.679
PVEST COSTS				
MACHINERY LABOR	HOUP	5.190	3.100	15.571
CUST STACK MOV.	PCT	5.000		
TRACTOR FUEL LUSE AND REPAIRS	ACRE		13.749	
FQUIPMENT FUEL LUBE AND REPAIRS	ACRE	1.000	4.353	
TAL MARVEST COSTS				
OEP HARVESTED ACRE(100)	ACRE			66.173
TAL HAPVEST COSTS				
050 0F7M1EJ 7002	ACOE			66.173
TAL VARIABLE COST PEP PLANTED ACRE	ACRE			123.352
YIELO PER HAPVEST	ED ACRE	5.000 TON 5.000 TON		

YIELD PER PLANTED AGRE 5.000 TON
SOURCE: NATURAL PESCURCE ECONOMICS DIVISION, ERS, USOA, CORVALLIS, OPEGON
MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 9C

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TRRIGATED ALFALPA HAYY PRODUCTION COSTS AND SCIURNS COORDINATED COREA ODE ORIGINAL PLAN, PACH LC HORTHW ST JEST GOD

49 ACIH IRKIS WATER	41 PHO BALER	F P RAKE	30 STOKLE MONER	18 DRY FLRT SPREAD		MACHINERY REQUIREMENTS	17 CUST STACK MOV.	16 ALFALIA ESTAY.	15 CUSI. HERBICIDE	14 CUSI. INS. CONT.	13 GYP SUM	12 PHOSPHORUS	11 SULFUR		OPERALING INPULS	1 ACLALFA HAY	PRODUCTI ON	I. INE		
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SOURCE: MATURAL RESOURCE ECONOMICS DIVISION, ERS. USIA, CORVALLE, BREGON MACHINERY DEFRATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVALION SERVICE

Table 10A

IRRIGATED CLOVER GRASS HAY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 002 OREGON
COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY			QUANTITY	
PRODUCTION CLOVER-TIMOTHY TOTAL RECEIPTS	TON	20.000	6.000	
OPERATING INPUTS NITROGEN PHOSPHORUS CUST STACK MOV. TRACTOR FUEL COST TRACT REPAIR COST TRACTOR LUBE COST EQUIP REPAIR COST IRRIG FUEL COST IRRIG REPAIR COST TOTAL OPERATING COST	LBS. LBS. TON ACRE ACRE ACRE ACRE ACRE ACRE	.280 .230	50.000 80.000 1.000	
RETURNS TO LANO, LABOR, CAPITAL, MACHINER' OVERHEAD, RISK, AND MANAGEMENT				65.91
CAPITAL COST ANNUAL OPERATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT IRRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		.080 .080 .080 .080	23.647 41.827 58.893 76.000	1.89 3.35 4.71 6.08 16.03
RETURNS TO LAND, LABOR, MACHINERY, WATE OVERHEAD, RISK AND MANAGEMENT	R,			49.89
OWNERSHIP COST (OEPRECIATION, TAXES, INSURANCE) TRACTOR EOUIPMENT IRRIGATION SYSTEM TOTAL OHNERSHIP COST	DOL. 00L. 00L.			5.18 10.51 6.78 22.48
RETURNS TO LAND, LABOR, OVERHEAD, WATER	2,			27.41
LABOR COST MACHINERY LABOR IRRIGATION LABOR TOTAL LABOR COST PETURNS TO LAND, OVERHEAD, WATER,	Н₹. НR.	3.000	6.057	
RISK AND MANAGEMENT				-2.57

SOUPCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USOA, CORVALLIS, OREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

BUDGET IDENTIFICATION NUMBER --- 50 230000 15162 ANNUAL CAPITAL MONTH 5

Table 10B

IPPIGATED CLOVER GRASS HAY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 002 OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNIT	QUANTITY	PRICE	VALUE
			DOLL A PS	30L_42S
PEHARVEST COSTS				
MACHINERY LABOR	HOUR	.857		2.500
IRRIGATION LABOR	HOUR		3.000	11.008
NITROGEN	LBS.	50.300	.280	14.300
PHOSPHORUS	res.	80.000	. 230	18.430
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000		
EQUIPMENT FUEL LUBE 440 REPAIRS	ACRE	1.300		
IRRIGATION FUEL LUBE AND REPAIRS	ACRE	1.009	2.464	2,454
INTEREST ON OPERATING CAPITAL		15.880	.080	1.270
OTAL PREHARVEST COSTS	ACRE			51.911
ARVEST COSTS				
MACHINERY LA EOR	HOUR	5.190	3.000	15.=71
CUST STACK MOV.	TON	1.000	6.500	5.500
TRACTOR FUEL LUPE AND REPAIRS	ACRE	1.000		
EQUIPMENT FUEL LUBE AND REPAIRS	ACRE	1.000	4.353	4.353
OYAL HARVEST COSTS				
PER HARVESTED ACRE(100)	ACRE			33.423
DTAL HARVEST COSTS				
PER PLANTED ACRE	ACRE			33.423
CTAL VARIABLE COST PEP PLANTED ACPE	ACRE			55.334
VIELD PER HARVEST	ED 4005	6 000 TON		
VIELO PER PLANTED				
DURCE: NATURAL PESOURCE ECONOMICS DIV				

MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 10C

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ANNUAL CAPITAL MONTH	IRRIGATED CLOVER GRASS HAY: PRODUCTION COSTS AND 9FTU9HS LAND RESOURCE AREA OD2 OZEGON COORDINATED COMPREHENSIVE JOINT PLAN: PACIFIC HORTHWESI REGION	10 0CT	U		0	0	0	0		0	0	0	0
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			LINE PROD 1 C	OPF	1.1	15	*	1.4	1	× 88	\$ 9	0 5	1 7

SOURCE: MATURAL RESOURCE FCONOMICS DIVISION, FRS, US)A, COPVALLIS, OREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

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Table 11A

TRRISATED SWEET DORM FOR PROCESSING: PRODUCTION DOSTS AND RETURNS LAND RESOURCE AREA DOS OPEGON CONROLMATED DOMREHENSIVE DOINT PLAN, PACIFIC MORTHMEST RESIDN

CATEGORY	UMITS	SOICE	2014-114	VILUE
PRODUCTION SHEET CORN TOTAL RECEIPTS	TON	-0.000	a,360	322.JC 320.9G
CPERATING IMPUTS 2-4+0 5-4+0 5-4+0 5-4-0 5	1955 - 19	2.310 .300 10.300 4.300 .290 .230 .150	1.000 7.000 3.000 1.000 1.000 150.000 120.000 5].000	2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.
DAESHEVO'SIZK'VNO AVAVEALAT BELNBAZ 10 7700'7730b'CVBILVC'47CHIAESA'	WATER,			125.66
OLPITAL DOST AMMULL SPESATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT LPPIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		.030 .090 .390		3.02 16 3.62 70
PETURNS TO LAND, LARDR, MACHINERY, MATER	ζ,			103.27
OWNERSHIP COST (DEPREDIATION, TAXES, INSURANCE) TRACTOR FOULPMENT IRRIGATION SYSTEM TOTAL OWNERSHIP DOST	33L. 3GL. 37L.			7.16 7.89 8.36 21.21
PETUPUS TO LAMO, LARCE, OVERHEAD, WATER,				27,15
1991 0081 -4041M254 74605 -4041M254 74605	-2.	7. 321 2. 0 13	3.752	::.25 ::.27 ??.76
SISK AND ATATOEAEAL SELESAS LO FAMOM UACOMETOM MULESM				44,70

SOURCE: NATURAL RESOURCE FOOTIONING DILIBION, ERS. LENA, DOFTALLIN, BRESON MACHINERY OREGATIONS BASED ON BATA DEVELOPED BY THE TOIL CONFERNATION DERVICE

RUNCET IDENTIFICATION NUMBER --- R6 220000 LEIRL BUNUAL OARTIAL MONTH R

Table 11B

CATEGORY	UNIT	QUANTITY	OSICE	VALUE
			DOLLAFS	DOLLAPS
REHARVEST COSTS				
MACHINERY LABOR	H3 U2	3.752	3.000	11.285
IRPIGATION LABOR	HOUR	3.690		11.970
2-4-0	L3S.	1.000		2.810
SWEET COPY SEED		9.000		7.200
COSA SIATK ICSOI	ACRE	1.000		+.300
NITROGEN		150.300	.280	42.000
PHOS PHOPIUS	L35.		. 230	27.500
POTASSIUM	F32.		. 150	9.503
TRACTOR FUEL LUBE AND PEPAIRS	4025 4035			
EQUIPMENT FUEL LUBE AND REPAIRS IRRIGATION FUEL LUBE AND REPAIRS	ACRE	1.300	2.319	
INTEREST ON OPERATING CAPITAL	40 43		. 380	
INITATE ON CHEMATING CALICAL		374700		_
TAL PREHARVEST COSTS .	ACRE			137.314
PVEST COSTS				
SW. CORN PICK +	TON	8.000	10.300	82.403
TAL HAPMEST COSTS PEP HARVESTED ACRE(100)	40 RE			82.400
	40 / _			
TAL HAPVEST COSTS				
PER PLANTED ACRE	ACRE			82.400
TAL VARIABLE COST PER PLANTED ACRE	40RE			219.714
ET22V9AH 930 CLSIY	1025	9 960 TON		
715ED 055 51 4455		2 000 TON		

YIELD PER PLANTED ACRE 9.000 TON
SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, COPVALLIS, CRESON
MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

SOURCE: HATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, COPVALLE, DRESOUR LERVICE HACHINERY OPERATIONS MASED ON DATA DEVELOPED BY THE SOIL CONSERVATION LERVICE

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Table 12A

NON-IPPIGATED BARLEY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA BBS OPEGON CORDINATED COMPREHENSIVE JOINT RLAN, PACIFIC NORTHWEST REGION

CATEGORY	UVITS	56106	YTITPAUC	VALJE
PRODUCTION PAPLEY TOTAL PEOFIPTS	3∪.	1.530	45.300	72.36 72.35
OPERATING INPUTS MITPOSEN PHOSPHOPHS POTASSINY LIME PARLEY SEED 2+4+0 CUSTOM HAULING CUSTOM HAULING CUSTOM FUEL COST TRACTOR FUEL COST TRACTOR FUEL COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR LUBE COST EQUIP FUEL COST EQUIP FUEL COST EQUIP PERAIR COST	5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5	.230 .230 .150 .012 .030 2.810 .120 2.200	1.000 45.300	4.20 4.65 .30 2.31
PETURNS TO LAND.LABOR, DARITAL, MACHINER OVERHEAD, RISK.AND MANAGEMENT	Υ,		~~~~	22.34
CAPITAL DOST ANNUAL SPERATING CAPITAL EDUIPMENT INVESTMENT FOTAL INTEREST CHARGE TOTAL INTEREST CHARGE			14.473 27.042 47.349	2.16
PETURNS TO LAND, LAROR, MACHINERY, OVERHEAD, RISK AND MANAGEMENT				17.73
CWMERSHIP COST (DEPRECIATION, TAXES, INSURANCE) TRACTOR EDUIPMENT TOTAL CHMERSHIP COST	99L. 39L.			3.76 7.38 10.73
PETURNS TO LANG, LARGE, OVERHEAD, PIEK AND MANAGEMENT				5.30
LABOR COST LABOR TOTAL LABOR DOST	٦٥.	3.030	2.31+	5.94 2.94
PETURNS TO LAMO, OVERHEAD, RISK AND MANAGEMENT				-1.9.

SOUPCE: NATURAL RESOURCE ECONOMICS DIVISION, EPS, USDA, CORVALLIS, OPERCY MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

RUDGET IDENTIFICATION NUMBER --- 71 200000 10165

ANNUAL CAPITAL MONTH 3

Table 12B

NON-IRPIGATED FARLEY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 302 OPEGON COOPDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATEGOOY	UNIT	CUANTITY	BOICE	VALJE
			00LL4PS	DOLLARS
PEHARVEST COSTS				
MACHINERY LABOR	HOUR	1.904	3.000	5.712
VITROGEN	L3S.	27.000	. 280	7.560
PHOS PHORUS	L3S.	40.000	. 233	9.200
POTASSIUM	LBS.	31.000	. 150	4.650
LIME	LBS.	31.000	.312	. 373
BARLEY SEED	L3S.	75.000	.383	5.000
2-4-7	LBS.	1.000	2. 3:0	2.91
CUST. HERBICIDE	4CPE	1.000	2,200	2,200
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000	5.677	5.67
EQUIPMENT FUEL LUBE AND PEPAIRS	40RE	1.309		
INTEREST ON OPERATING CARITAL		14.473		1.15
TAL PREMARVEST COSTS	- ACRE			43.35
	-			
PVEST COSTS MACHINERY LAPOR	HOUR	.376	3.000	1.129
CUSTOM HAULING	30.	45.800		
EQUIPMENT FUEL LURE AND REPAIRS	40 RE	1.000		
	- 40 45	4	3.442	
TAL MARVEST COSTS				
PEP HARVESTED ACRE(100)	ACRE			9.15
TAL HARVEST COSTS	-			
PER PLANTED ACRE	ACRE			9.15
TAL VARIABLE COST PER PLANTED ACRE	ACRE			57.51
	-			
YIELD PER HAPVES				
AIEFO GES BEWALE.	0 403E	+5.500 BU.		

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Table 12C

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					PPODUCTION 1 PARLEY	OPERATING INPUTS		NYTROGERI	PHOSPHOPUS	POISSAIOM	I IME	BARLEY SEED	3-11-3	CHSTON HAJLING	COST. HERMOTOF	MACHINERY PEDUTREMENTS		49 PLUM 4-16	TAMBEN DISK	SOLKE HARROW	SPR LUGGOOTH	DRILL WAFERT	SP COMBINE
				LINE	1040	0.016		11	1.2	14. 14.					1 15 (MAF					1-1	4.5	7 17

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SOURCE! HAIDPAL RESOURCE FCONOMICS DIVISION, ERS, USIA, CORVALLIS, ORFGON MACHINERY OPPRATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 13A

MON-TRRIGATED CLOVER GRASS HAY: PROSUCTION COSTS AND RETURNS LAND RESOURCE AREA 302 CRESON COORDINATED DOMPREHENSIVE JOINT PLAN, RAGIFIC MORTHWEST RESIDN

CATEGORY	UNITS	PRICE	PYTETPLUC	/4LJE
PRODUCTION				
CEDVER-GRASS HAY	TON	35.000	2.500	87.50
TOTAL PESSIBLE				27.50
OPERATING INPUTS				
NITROGEN	135.	. 230	43.300	11.20
6HUZ6HU5N2	L3S.	.272	20.030	* * Ď Ĵ
UFUNES-BEYSS HAX	ACPE	14.530	1.030	1 → • 5 0
CUST STACK MOV.	TON	5.500	2.530	15.25
TRACTOR FUEL COST	109E			2.21
TRACT PERAIR COST	7 C = Ξ			1.75
TP4CTOP LUBE COST	ACPE			.42
EQUIP REPAIR COST	ACRE			1.56
TOTAL OPERATING COST	_			53.21
PETURNS TO LANC, LABOR, CAPITAL, MACHIMERY,	1			
AVERHEAD, RISK, AND MANAGEMENT				329
CAPITAL COST				
ANNUAL POESATING PARITAL		. 330	7.055	.54
TRACTOR INVESTMENT		. 2 3 6		: . 36
EQUIPMENT INVESTMENT		.030	25.670	2.15
TOTAL INTEREST CHARRE		. 0 0 0	20.0	*.55
0186 1715-131 554-11				*107
RETURNS TO LAND, LAROR, MACHINERY,				
				20 - 2
OVERHEAD. RICK IND MANAGEMENT				29.53
ALL TO TO AGET (ACCORDANCE)				
OWNERSHIP COST (OFFRECIATION.				
TAXES. INSURANCE!	2.01			
TRACTOR	DOL.			2.33
EQUIPMENT	30L.			4.43
TOTAL OWNERSHIP COST				7.36
RETURNS TO LAND. LARGE, OVERHEAD.				
SISK 740 ARADGEHEAL				27.27
F7805 J321				
AUCHEVESA TYGOS	HP.	3.000	2.3-3	7.17
TOTAL LARGE GOST				1.12
RETURNS TO LAND, OFFRHEAD.				
SIEK TAO HTHY JEHENI				18.15

SOUPOE: NATURAL RESOURCE ECOMOMICS CIRISTON, EFF. ECA, CORVALLIS, OPERCH MACHINERY OPERATIONS RASED ON DATA DEVELOPED BY THE SOLUTON SERVATION DERVICE

AUGGET IDENTIFICATION NUMBER --- 90 200000 10183 ANNUAL DARITAL MONTH 4

Table 13B

NON-IRPIGATED CLOVED GRASS HAY: 0000UCTION COSTS AND PETURNS LAND RESOURCE AREA 082 OREGON
CCORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATEGCPY	UNIT	GUANTITY	PRICE	AVERE
			DOLLAFS	10L_42S
REHAPVEST COSTS				
MACHINESA TABOS	ਸ਼ਰੂਚਣ	.433	3.000	1.330
MITROGEN	ras.			11.200
PH3S PH 1PUS	LBS.	20.000		
CLOVER-GRASS HAY	ACRE	1.000	14.500	
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.300		
EQUIPMENT FUEL LURE AND REPAIRS	₹∁ ⊅∃	1.900		.29
INTEREST ON CRESATING CARITAL		3.625	.393	. 201
OTAL PREHARVEST COSTS	⊅C5Ē			32.75
APVEST COSTS				
MACHINERY LABOR	HOUR	1.607	3.000	4.32
CUST STACK MCV.	TON	2.500		15.250
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000		4.41
EQUIPMENT FUEL LUGE AND REPAIRS	∆C RE	1.000		_
OTAL MARVEST COSTS		**		
PER HARVESTED ACRE(100)	ACRE			25.857
TAL HAPVEST COSTS				
SES SETANTED ACKE	ACRE			25.357
BROA GETMANS REG TECO SURANTED ACRE	ACRE			59.629
AIETU SES HVSAESLE	D ACRE	2.503 TON		
CETRALS SEG CLERY	ACRE	2.500 TOM		

TOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, CRESON MACHINERY OPERATIONS BASED BY DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 13C

4.1 PTO BALER	GO RAKE	49 SICKLE MONER	SH DRILL NIFERT		MACHINERY REQUIREMENTS	20 CHET STACK MOV.	13 CLOVEN-GRASS HAY	12 PHOSPHOPUS	11 M) I ROSEN		OPPRATING INPUTS	1 CEOVER-GRASS HAY						
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SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, ORIGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SUIL CONSERVATION SERVICE

Table 14A

NON-IPPIGATED CATS: PRODUCTION COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION LAND RESOURCE AREA 102 OFFSCH

CATEGORY	UNITS	SOICE	YTITMAUC	VALUE
PRODUCTION CATS				74505
LOIDT SECENDE	30.	.978	43.000	45.5
CRESTAG THENTS	•			45.5
779.25.51	L35.			
#0410310	F32.	, 207	74.3.3	17
SHEND	۲٫۶۰ - ۲۰۰	+ 231	-1.55	7.7
947S \$550	<u> 135.</u>	.1F2	30.000	→ , T
CASIDA HEATING	LBS.	.003	59.000 60.000	<u>.</u>
TPACTOR FUEL COST	30.	,100	43.930	= . 4
TFACT REPAIR COOF	4CRE		-0.000	-, 2;
* \$10700 EU3# 3051	ACRE			3.59 2.03
EQUIP FUEL COST	40 RE			.59
E0016 F035 0051	40RE 40RE			1.76
E TUIP REPAIR COST	40 KE			. 25
TOTAL OPERATING COST				3.35
				= 3.12
SVERHEAD, PISK, 190 MANAGEMENT	PY,			
CAPITAL COST				-5.55
ANNUAL OPERATING CAPITAL				
1 AUCIOS IMAECIMENT		• 0 9 0	15.064	1,29
FOULPMENT INVESTMENT		.030	* . * . *	5.12
OTAL IMTEREST CHARGE		.050	45.793	3.74
CT. (D) C = 0				11,15
STURNO TO LAND, LARDR, MAGHINERY, NERVENDEND NO LAND LARDR AND MANAGEMENT				
				-12,74
M. 132HIS UDSI (DEBIEDISTION,				
AYES, INSUPANCE)				
EUNIBWENT	00L.			
CLVF CMAESZHIS COZI	201.			7.50
2. up. pa. (2.2.47 % 002)				7.28
ETHOMS TO LAND, LAFOR, OVERHEAD,				178
PISK AND MANAGEMENT				
200 0001				-319
100HINTAY ADOD				
174L 14909 000+	wp.	3.019	2. 173	
*********			_ • _ · J	#.72 €.52
TUPMS TO LAND, OVERHEAD.				
SIZK AND MENAGEARME				
				-39.01

MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION CERVICE

TIMES CONTRACTON NUMBER 3 --- 1. 200000 Foliab

Table 14B

NON-IPPIRATED DATS: PRODUCTION COSTO AND PETURNO COCRDINATED DOMPREHENSIVE UNINT PLAN, PADIFIC NORTHWEST PERICH LANG PISSOUPOF APEA COZ OPERON

CATEGORY	UNIT	COTMILLA	a⇒105	14LUE
			00LLAPS	D1L_4F5
PEHARVEST COSTS				
A \$ U H I M E D A F T B O S	ลบกอ	1.762	3.900	5.247
1 ITPOSEN	LBS.	33.333	. 29.0	11.541
EH 32 PH 40112	195.	40.301	.233	9.200
POTASSIJM	LBS.	30.000	. 180	- 4500
TULFUD	LBS.	F9.383	+ 111	5.490
nars seen	F32.	50.000	. 59 5	500
TEISTOP FUEL LURE AND RESAIRS	20 PE	1.700	5.041	5 + 24:
EQUIPMENT FUEL EURE AND REPAIRE	40 = E	1.737	23=	2.40
INTEREST ON OPERATING CAPITAL		16,164	.235	1.23
_77	10°E			515
P.V.ES.1 00812				
44041454	43 UP	.375	3.000	1.:29
CUSTOM MAULING	3U.	43.303	. 103	4.52
EDJIPMENT FUEL LUBE AND REPAIPS	4 C P E	1.736	3.442	3,5-
TAL -4PVFSF COSTS				
9EP 44RVESTED 409E(100)	⊅ C ± Ξ			3,77
TAL HARVEST COSTS				
PER PUNTED ACRE	ACPE			9.07
TAL MARIABLE DOST REP PLANTED ACRE	40 R.E			60.62
SELNUTE ALE UTELA CELNUTH ALE UTELA		+3.000 80. +8.000 80.		

and that the angle agong and acommented of Aration. For the local on analytics of the control of

Table 14C

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NUMBER		16 1 TTEM T CODE	47	TIFH I	212	213	215	210	17.	C #*		Sm)?	< 1	11	64	7.8	65	18
0800		15 UNIT CODE	2	11HU C006	1.2	12	12	1.2		•	0.045.2	UTILI	7	/	7	7	7	0
BUNGET PECORO NUMBER		14 WFIGHT	S	NUMMEN	0	J	0	ت		-	HUTH SUNDA XXXXX		0	0	0	0	0	0
T		13 P4ICE	0.26*	PRICE	.280	3 £ ? ·	.150	.110	666.	. 100	3 x K X 3		c	0	0	0	U	U
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AL SAF	T R WE'S I	9 SEP	0		0	0	0	0	0	ŋ			0	0	0	0	0	0
ANNU	NON-TERIGATEU GATS: PRODUCTION COSTS AND RETURNS COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWESI LAND RESOURCE AREA 002 ORFCON	A U6	48.00		0	0	0	0	0	68.00			0	0	0	0	0	1.00
	AND R PACI	7 Jul 11 S	0		C	0	С	0	0	0	OVER		_	0	0	=	0	0
8159	COSTS PLAN,	e Jun OF un	0	RATEZUNIT	0	0	Q	c	C	O	TIMES		0	0	0	0	С	c
0000	NON-TERIGATEU OATSI PRODUCTION COSTS COORDINATEU COMPREHENSIVE JOINT PLAN. LAND RESOURCT AREA 002 ORTEON	S 6 7 NUMAFR OF UNITS	0	RATE	0	9	0	0	0	۲.			=	0	0	0	0	0
74 20	NON-TERIGATEU GATSI PRODUCTIO COORGINATEU COMPREHENSIVE JOI LAND RESOURCE AREA 002 OREGON	A P R	0		38.00	0.00	30.00	00.6	60.09	Ö			0	0	0	0	1.00	ŋ
o strain	OMPREI ARFA	* * * * * * * * * * * * * * * * * * *	0		0				3	-			. J	1.00	0	1.00	0	0
ATTON B	RIGATEL VATEN C SOURC	2 FEB	0		ن	0	0	0	0	c ·			1 • 11	1.00	1.00	0	ŋ	0
TIFIC)	JON-TRE	JAN NAN	C		0	0	0	0	O	4,5	<i>U</i> -		_	0	0	¢	c	0
GUJGET IDFNITFICATION NUMBER 74 200000 10159	207	t 1 HF PAODUCETON	1 0415	OPFOATING INPUTS	11 HITHOGEN	12 PHO SPHOPUS		14 590.098	15 DATS SEFD	U. CONTOURABLING	STRALCINE : LA MINDIE		30 11 PL 14 4-15	29 TANDEN DISK	40 SOIKE HARROW	41 SPRINGTOOTH	42 DOILL WAFFRI	43 SP COMBINE

SOURCE: NATURAL PESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, OREGON MACHINERY OPFRATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 15A

FOR ACERTICATED WINTER WHEAT: PERRIOTION CROSS IND ROTURNS UPING UPING TOTAL OF APPARENTIATION PLANT PAGIFIC FORTHWAST PRIOR

117771	Ur ITI	2-10-	78477774	/1_ 'F
MINTER WHEAT	30.	2.540	0+.733	170.31
TOTAL PECEIPTS				173.31
OPERATING INPUTS				
417303EN	L3S.	. 2 ° 0	£9.033	12.32
5H325H35H2	L3S.	.230	39.000	3.07
501722104	LBS.	.150	39.000	5.35
1 7 45	L35.	.012	101.010	1.21
MHE11 2550	30.	.103	90.000	2.24
CUST, FERRICIDE	40 <i>RE</i>	2.230	.331	.73
OUSTOM HAULING	3U .	.130	5711	5 7
CUST. INS. CONT.	ACPE	11.600	1.333	11.60
TP40TOR FUEL COST	40 PE			1.54
TPACT REPATR COST	ACRE			.30
TRACTOR LUBE COST	ACRE			.23
EQUIP FUEL COST	408E			1.74
EQUIP EURE COST	ACPE			.25
FOULP REPAIR COST	7CSE			1.74
FOTAL OPERATIVE DOST				53.59

PETUPNS TO LAND.LABOP.CAPITAL.MACHIMEPY.	•			
OVERHEAD, PISK, AND MANAGEMENT				102.12
0.0000				
CAPITAL COST			70.000	
ANNUAL GREATING CARITAL		.030		3.13
TPACTOR INVESTMENT		.030		.93
EQUIPMENT INVESTMENT TOTAL INTEREST CHARGE		.0 = 0	33.257	2.86
1017F 7117A521 PuckO5				53
RETURNS TO LAND. LARGE, MACHINERY,				
OVERHEAD, RISK AND MANAGEMENT				99.29
nu gagaga nngh (nghagngamghw.				
T/YF3, [45491-07]				
7312702	DOL.			1.53
77,7729707	00L.			5.11
TOTAL 04 .5034TO 003T				2,00
PETUPNS TO LAND. LABOR, DVERHELD.				
PISK AND MANAGEMENT				8ª.7T
L#P0R 003T				
440HINERY	Hº.	3.020	1.271	3.21
TOTAL LABOR SOST				3.31
PETURAS TO LAND. OVERHEAD.				, 00
PISK AND MANAREMENT				34.95

SCURCE: MATURAL RESCURCE FROMOMICS DIVISION, ERS. 304. SHEVALLIS. OPEGON MACHINERY OPERATIONS BASED ON DAFA DEVELOPED BY THE IDEL CONFERRATION SERVICE.

AUDGET IDENTIFICATION NUMBER --- 78 200000 10183

INNUAL CUPITLE MONTH 3

Table 15B

NON-IRPIGATED WINTER WHEAT: PRODUCTION COSTS AND RETURNS LAND RESOURCE 4REA 102 DREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY			YTITHAUD		VALUE
				DOLLARS	DOLLAPS
REHARVEST COSTS					
MACHINERY LABOR		400୧	. 351	3.000	2.532
MITPOSEN		LBS.	69.000	. 29 0	13.320
PHOSPHORUS		L3S.	39.000	. 239	3.970
POTASSIUM		L35.	30.303	. 15 ป	5.950
LIME		LBS.	101.000	.012	1.212
MHEAT SEED		8U•	90.000	. 103	3.240
CUST. MERBICIDE		ACRE	.370	2.200	.725
QUET. INS. CONT.		40 RE	1.000	11.500	11.600
TRACTOR FUEL LURE AND	: REPAIRS	4035	1.000	2.556	2.566
EQUIPMENT FUEL LUBE 4	MD PEPAIRS	ACRE	1.000	. 291	.291
INTEREST ON OPERATING	CAPITAL		39.356	. 080	3.139
OTAL PREHARVEST COSTS		ACRE			54.546
IRVEST COSTS					
MACHINERY LARGE		ฯกบล	.375	3.000	1.129
CUSTOM HAULING		30 •	64.700		
EQUIPMENT FUEL LURE A	MO DEPAIRS	ACPE		3.442	
DTAL HARVEST COSTS PER HARVESTED ACRE(16	0 1	ACPE			11.041
L54 47.452150 YCX5(1)		#C+E			11.041
STAL HARVEST COSTS					
PER PLANTED ACPE		ACRE			11.041
OTAL VARIABLE COST PEP	PLANTED ACPE	∆C≎E			75.=97
ΥI	ELD PER HARVESTE	D ACRE	54.790 RU.		
_	ELD PER PLANTED				

SOUPCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS. USDA. COPVALUIS, CREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 150

TACHEN AT REJUIZED DIS SE TANDEM DISK SE SPIKE HARZON LE SP COMBINE LI SPIKE HARZON	12 PHOSPHORUS 13 POTASSINM 14 LIMI 15 UNFAT SEFO 16 CUST. HFRBICIOS 17 CUSTOM HAULING 18 CUST. INS. CONT.	SIDANI DULLVA BULLVA BU
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	0.00.00	

SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USIA, CONVALUE, ORIGINAL NACHINERY OPERATIONS BASED OF GATA DEVILOPED BY THE SOIL CONSERVATION SURVICE.

Table 16A

IPRIGATED SAPLEY: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 310 OPEGON CORDINATED DOMPREHENSIVE DOINT PLAN. PACIFIC NORTHWEST REGION

CATEGORY	צווויט	PRICE	OUANTITY	ATTIE
PRODUCTION 249LEY TOTAL PEDEIPTS	30.	1.530	70.000	110.50 110.50
OPERATING INPUTS HITPOGEN PHOSPHORUS AARLEY SEED 2+4-0 CUSI. HERRICIDE DITCH PEPAIR CUSTOM COMBINE TRACTOR FUEL COST TRACT RECAIR COST TRACTOR LUBE COST EQUIP REPAIR COST IRPIG FUEL COST IRPIG REPAIR COST TOTAL COEPATING COST	L95. L95. L95. L95. ACCRE ACCR	.280 .230 .040 2.810 2.230 1.630 14.500	100.000 .750 1.000 1.000	9.29 9.00 2.11 2.20 1.50
PETURNS TO LING. LABOR. CAPITIL, MACHINERY,	WATER,			49.38
CAPITAL COST ANNUAL OPERATING CAPITAL TRACTOR INVESTMENT FOUIPMENT INVESTMENT IRPIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		0 9 0 . 0 7 0 . 0 9 0 . 0 8 0 .	17.044	1.36 2.19
RETURNS TO LAND, LABOR, MACHINERY, WATER OVERHEAD, RISK AND MANAGEMENT				34.98
OWNERSHIP COST (DEPRECIATION, TAXES, INSURANCE) TRACTOR EQUIPMENT IRRIGATION SYSTEM TOTAL OWNERSHIP COST	30L. 33L. 90L.			2.11 4.34 7.21 13.66
PETURNS TO LAND, LABOR. OVERHEAD, WATER, PISK AND MARBMENT				21.33
LABOR COST LABOR TOTAL LABOR DOST	ਜਵ. ⊔2.		2.+65	
PETURNS TO LAMB, CVERHEAD, HATER, PISK AND MANAGEMENT				1.33
				1.33

SOURCE: NATURAL RESOURCE FOOMOMICS DIVISION, ERS. USD4, CORVALLIS, OREGON MACHINERY OPERATIONS BASED ON DATA REVELORED BY THE SOIL CONSERVATION SERVICE

Table 16B

IPPIGATED RAPLEY: PRODUCTION GOSTS AND RETURNS LAND RESOURCE AREA 310 DARFOON SCORDINATED DOMPREHENSIVE JOINT PLAN. PACIFIC MORTHWEST REGIOM

CATEGORY	UNIT	GUANTITY	99105	VALUE
a			20FF 4 ±2	30L_4FS
PEHARVEST COSTS				
MACHINERY 14808	HOUR	2.463	3.353	734
IRPIGATION LARGE	HOUS	4.132	3.300	12.546
NITPOGEN	L3S.	60.000	. 280	15.300
PH0SPH0PUS	L∃S.	43.033	. 730	3.200
atafek SEED	F32.	100.353	4.190	3,630
2-4-9	Las.	.790	2.213	2.137
QUST. HERBICIDE	ACRE	1.303	2.700	2.201
DITCH REPAIR	ACRE	1.003	1.893	1,530
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000	3.729	3.328
FOULPMENT FUEL LURE AND PEP4199	4095	1.000	2.152	2.152
IRPISATION FUEL LURE AND PRPAIRS	#CRE	1.000	2.513	2.512
INTEREST ON OPERATING CAPITAL		33.713	. 080	2.697
GTAL PEEHARVEST COSTS	ACRE			70.554
APVEST COSTS				
CUSTOM COMBINE	4C8E	1.000	14.900	14,831
OTAL HARVEST COSTS				
oE3 H45A±21E0 7C5±(130)	ACPE			14.501
TAL MARVEST COSTS				
SED BEANTED SCRE	ACRE			14.500
CTAL MARIABLE COST REP PLANTED ACRE	ACRE			25,10
TREVANH CEC CLEIV	ED AORE	70.200 BU.		

SOUPCE: NATURAL RESOURCE ECONOMICS DIVISION, EPS, USOA, COFVALLIS, CRESCH MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LPA 21 AND 43

Table 16C

STEADY BY CORD HOME	
ARIBBAL CAPTIAL MONTH 1	
7110 19600 15164	
AUTOLIE INTINITERIOR HOMBER	

IRRIGATED HAPLITY PRODUCTION COSTS AND RETURMS LAND PESCHOPS COURCE AREA 010 OREGON COURCEAUS PACIFIC NORTHWEST REGION

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16 1TEM	COUE	7.1	E E	COBE	212	213	1/1	152	111	369	305	MACH	COBE	3.0	3	46	49		
15 UNIT	COOF	63	URIT	CODE	1.2	12	12	1.2		7	,		UNIT	-	7	-	-		
14 WETGHT (0	NUMBER		0	0	ບ	ŋ	0	0	භ	XXXXX POWER	_	0	0	0	Θ		
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9 70N	NUMBER OF UNITS	6	RATEZUNIT		0	0	0	. 75	1.00	0	0	TIMES		0	0	0	0		16.00
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	LINE PRODUCTION	1 stable	OPERALING INPUTS		11 HILDOGEN	1.2 PHO SPHORUS	13 BARLEY SEED	14 2-4-0	1° CUST. HERBICIDE	16 DITCH REPAIR	17 CUSTOM COTHINE	MACHINERY REQUIREMENTS		5P M3 PLOW 3-16	FG OFFSET BISK	4.0 SPIKE BARROW	41 DATER WAFERE		49 ACIM IRRIS WATER

SOURCE: MATURAL PESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, OREGON MACHINERY OPERATIONS BASED ON DATA DEVILOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LRA 21 AND 43

Table 17A

NON-IPRIGATED WINTER WHEAT: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA DIG ORESON COORDINATED DOMPREHENSIVE UCINT PLAN, PACIFIC NORTHWEST RESIDN

CATESORY	UNITS	salc£	CUANTITY	11LJE
PRODUCTION WINTER WHEAT TOTAL PROFIRES	მს.	2.540	35.030	92,48 92.40
DPERATING INPUTS VITROGEN 2-4-0 CUST. SPRAY PRACTOR FUEL COST PRACTOR LUBE COST EQUIR FUEL COST EQUIR LUBE COST EQUIR LUBE COST EQUIR REPAIR COST	L3S. L3S. 40 RE 40 PE 40 PE 40 PE 40 PE 40 PE 40 PE	.230 .103 2.318 2.699	30.000 →5.000 .500 1.000	9 4 6 6 7 4 4 2 5 2 4 9 9 8 6 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
CAESAEND ATARCEAEAL CANTANON TO FAMOUT AND ATARCEAEAL	,			55. +1
CAPITAL COST 4NNUAL OPERATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT TOTAL INTEREST CHARGE		. 3 7 0 . 0 7 0 . 3 7 2	22.130	2.02 4.77 33 5.21
RETURNS TO LAND, LARCE, MACHINERY, CAERHEAD, RISK AND MANAGEMENT				59.2:
OWNERSHIP COST (DEPRECIATION, TAKES, INSUPANCE) TPACTOR EDUIPMENT TOTAL OWNERSHIP COST	30L. 33L.			2.75
PETURNS TO LANCE LARCE, OVERHELD.				49,73
LULTE F7300 302. ATCHINESA F7300 F7300 COUL	40.	3.910	1.913	5.73
SISK WAD HANGERER.				44,12

SOUPCE: MATURAL RESOURCE FOOMOMICS DIVISION. ERR, USDA, DORVALLIS, OFFICE MACHIMERY OPERATIONS RASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LRA +7 TRUBER IDENTIFICATION NUMBER --- TRIBUDIOS 1015T

Table 17B

VON-IPRIGATED WINTER WHEAT: PRODUCTION COSTS AND RETURNS LAND RESURCES OF AREA OFF APPLICATION CORTHWEST REGION COMPREHENSIVE FOR THE PACIFIC MORTHWEST REGION

PEHARVEST COSTS MACHINERY LARDR NITPOSEN WHEAT SEED .2-4-0 CUST. SPPAY	HOUR		DOLLARS	DOLLAPS
MACHINERY LARDR NITPOGEN WHEAT SEED .2-4-0				
NITPOSEN WHEAT SEED 2-4-0			7 000	
WHEAT SEED 2-4-0	L 75.	1.553 30.000	3.000	4.574
.2-4-9	L3S.	45.000	. 103	3.400 4.635
, =	L3S.	•500	2.810	1,405
(331. 34)	ACRE	1.000	2.500	2.530
TRACTOR FUEL LURE AND PERAIPS	40 RE	1.000	4.545	
EQUIPMENT FUEL LURE AND REPAIRS	4095	1.803	2.764	
INTEREST ON OPERATING CAPITAL		12.612	. 393	1.009
104 - 401 - 0 t -				
OTAL PREHARVEST COSTS	ACRE			29.733
APVEST COSTS				
MACHINERY LABOR	HOUR	.322	3.000	.967
EQUIPMENT FUEL LUBE AND REPAIRS	ACRE	1.000		
OTAL HARVEST COSTS PER HARVESTED ACRE(100)	ACRE			3.907
	40 42			3.707
CTAL HARVEST COSTS				
PER PLANTED ACRE	ACPE			3.997
TTAL MARIABLE COST PER PLANTED ACPE				
	ACRE			33.640

YIELD PER HAPVESTED ACRE 35.000 BU.
YIELD PER PLANTED ACRE 35.000 BU.
SCUPCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS. USDA, CORVALLIS, OREGON
MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE
APPLICABLE TO LP4 43

Table 17C

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COORDINATED COMPREHENSIVE TOTAL PLAN, PACIFIC MONTHES I REGION	CANG MESOURCE AREA OLD DESCON	HON-TERIGATER WINTER BREATT PRODUCTION COSTS AND SETURAL

TA SP CONSINS	A DAY FERT SPREAD	42 DRILL WYFERT	AL ROD MEEDER	O SPIKE HARRON	39 SPRINGTOOTH	38 MB PLON 4-16		MACHINERY RETUINENTS	th CUSI. SPRAY	4 2-4-0	12 MAFAI SEFI	L1 NTRUCEN		OPERALING INPUTS	T WINTER METAL	CINI
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SOURCE NATURAL RESOURCE ECONOMICS DIVISION, ERS, USBA, LORVALLES, ORTHOR MACHINERY OPERATIONS BASED ON HAIA DEVELOPED BY THE SOIL CONSERVATION REPORTS APPLICABLE TO LEA 43.

Table 18A

IRPIGATED ALFALEA HAY: PRODUCTION COSTS AND RETURNS
LAND RESOURCE AREA 321 OREGON
COORDINATED COMPREHENSIVE UPINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNITS	DOICE	QUANTITY	VALUE
PRODUCTION ALFALFA HAY TOTAL PECEIPTS	ист	36.710	5.000	193.50 183.50
OPERATING INPUTS CUST. FEPT. APP. CUST. SPRAY CUST STACK MOV. PHOSPHOPUS SULFUR TRACTOR FUEL COST TRACTOR FUEL COST IPACTOR LUBE COST EQUIP FUEL COST EQUIP SEPAIR COST EQUIP SEPAIR COST IRRIG FUEL COST IRRIG FUEL COST IRRIG FUEL COST IRRIG FUEL COST	40000000000000000000000000000000000000	2.600 2.600 6.500 .230 .110	1.500 5.000 43.300	2.90
PETUPNS TO LANCHEABORHDAPITAE, MACHIMERY, OMERHEAD, RISK, AND MANAGEMENT	WATED,		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	121.15
CAPITAL COST ANNUAL CPERATING CAPITAL TRACTOR INVESTMENT ECUIPMENT INVESTMENT TRRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		• 0 90 • 0 90 • 0 30 • 0 90	3+.335	2.79
PETURNS TO LAND, LABOR, MACHINERY, WATER OVERHEAD, PISK AND MANAGEMENT	1			104.52
ICTAL CMMESSHIP COST ISSIGNITION SYSTEM ISSIGNITION SYSTEM INCOME INCOME	701. 701. 901.			7.10 9.20 7.53 20.93
PETUPNS TO LANC, LAPOR, DYEPHEAD, WATER,				43,#0
LARCR COST MACHINERY _ARCR LRRIGATION LARCR TOTAL EAROR COST	40. 40.	3.000 3.000		
PETUPNS TO LAMB, OVERHEAD, WATER,				42.30

SOUPCE: NATURAL RESCUPCE FOOMEMICS DIVISION, EPE, USCA, CORVALLIS, OFFICEN MACHINERY OPERATIONS BASED ON CATA OBVELOPED BY THE SOIL CONSERVATION SERVICE

APPLITABLE TO LPA 10 AND 47
BUNGET IDENTIFICATION NUMBER --- BIZL30000 LFLF6
ANNUAL CAPITAL MONTH #

Table 18B

IRRIGATED ALFALFA HAY: PRODUCTION COOTS AND PETURNS LAND RESOURCE AREA O21 ORESON COORDINATED COMPREMENSIVE JOINT PLAN, PAGIFIC MORTHWEST RESION

CATEGORY	0411	CUANTITY	PPISE	VALUE
			30L14R5	3017752
PEHARVEST COSTS				
IPPIGATION LABOR	2 00€	4,428	3. 100	13.234
CUST. FERT. APP.	1035	.500	2.200	
CUST. SPPAY	40 RE	1.500	2.600	3.⊐00
5452540542	LBS.	43.563	. 230	3.200
3U L FN9	£35.	25.000	. 11]	2.853
ISSISTATION ENER FINSE THO BEDVISS	109E	1.000	2.772	2.772
INTEREST ON OPERATING CARITAL		15.212	. 03.0	1.217
OTAL PREHAPIEST COSTS	+0RE			74.737
+4PVEST 002T3	-			
440H 1453Y 1490P	- 00₹	252	3.000	1,735
SUST STACK MOV.	TON	5.000		
TRACTOR FUEL LUGE AND PERAIES	ACPE	1.300		
EQUIPMENT FUEL LUBE AND PERAIRS	≟SRĒ	1.000		
	•			
CTAL HARVEST COSTS (100)	ACPE			-=.733
TOTAL HARVEST COSTS	•			
PER FLANTED MORE	1CPE			49.113

SECT CETRALS SECTION ACRES	10°E			34.236
AIECO SES 445A82.	TED 40PE	F. 300 TON		
YIELD PER PLANTE				

YIELD PER PLANTED 107E F.000 TON
SOURCE: NATURAL PESCURCE ECONOMICS DIVISION, ERS. USOA. CORVALLIS. DEFSCH
MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL DONSERVATION SERVICE
APPLICATE TO LEA 10 AND 43

Table 18C

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ANNUAL CAPITAL MONTH 6	
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RUDGET TOTALLETEATTON HUMBER	

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TRRIGATED ALFALLA HAVI PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA DRI UPEGON COORDINATED COMPREHENSIVE JOINT PLAN, PAGIFIC NORTHWESF REGION

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	L THE PRODUCTION	1 ALFALFA HAY	OPERATING IMPUIS		11 CUST. FF3f. APP.	12 CUST. CURAY	13 CUST STACK MOV.	14 PHOSPHORUS	15 SULFUR	STUBERTH OF YARMENTS		38 SP SWATHER	39 PAKE	GP PHO BALER		49 ACIN IPPIG WALER

SOURCE! NATURAL RESOURCE ECOMOMICS OIVISION, ERS, USDA, CORVALLIS, OREGON MACHINERY OPFRATIONS GASED ON UATA OFVELOPED BY THE SOIL CONSERVATION SERVICE APPLIAGLE TO LRA 10 AND 43

Table 19A

IPPIDATED CATS: PRODUCTION COSTS AND PETURNS LAND PESCURCE APEA CAL OPEGON COCRDINATED COMPREHENSIVE DOINT PLAN, PACIFIC MORTHWEST PEGION

CATESCRY	UNITS	9910E	SUANTITY	YA LUE
PPODUCTION OATS TOTAL PECEIPTS	30.	.970	40.000	77.50 77.63
OPERATING INPUTS MITPOSEN PHOSPHORUS PAULTY SPED 2-4-D 2-4-D CHTCH PERALIE CUSTON COMBINE TRACTOR FUEL COST TRACTOR FUEL COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR LUBE COST TRACTOR FUEL COST TRACTOR REPAIR COST	135. 135. 135. 137. 107.	.290 .270 .300 2.310 2.203 1.603	50.800 +0.800 150.800 1750 1.800 1.800 1.800	16.700 d 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RETURNS TO LAND, LARCE, CARITAL, MACHINER CYERHEAD, RISK, AND MANAGEMENT CARITAL COST ANNUAL OPERATING CARITAL TRACTOR INVESTMENT EDUIRMENT INVESTMENT IRRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE	v.,ares.	.090 .040 .040 .040	17.70° 17.244 27.405 31.750	12 1.36 2.10 2.15
PETUPNS TO LAND. LANDR, MACHIMERY, 44T DVERHEAD, PISK AND MANASEMENT	ΞQ.			3.65
TOTAL NWHERRAID COST	00L. 00L. 11L.			2.11
PETURNS TO LING, LARGE, OVERHEID, HATE RISK AND MANAGEMENT				-:1:11
1250	~ D ,	3.000	253	1.43 12.56 18.55
PETUPNS ID LAND. OVERHEAD, WATER. PISK AND MANIGEMENT				-23,24

SCURSE: MATURAL RESOURCE FOOMEMENT DEVELOPED BY THE TOOK CONSERVATION SERVICE

PUNGET IDENTIFICATION WIMPER --- 7.0173330 SESSUAWNIAL OBSTRACTOR WIMPER --- 7.0173330 SESSUAWNIAL OBSTRACTOR

Table 19B

IPPIGATED DAIS: PRODUCTION COSTS AND RETURNS
LAND RESOURCE AREA 321 OPEGON
COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNIT	DUANTITY	o≎ICE	VA_UE
			OOLLAFS	COLLARS
PREHARVEST COSTS				
MACHINERY LABOR	40UR	2.469	3.200	
IRRIGATION LABOR		4.132	3.200	
MITROGEN	L3S.	50.000	. 280	
PHOSPHORUS	L35.	40.300		9.200
RARLEY SEED	L3S.	135.303	.023	3.333
2-4-9	LBS.	.753	2.910	2.137
QUST. HERBIGIDE	ADRE	1.000	2.208	2.200
DITCH REMAIN	4CPE	1.003		1.608
TRACTOR FUEL LURE AND REPAIRS	ACRE	1.009	3.328	3.323
EQUIPMENT FUEL LUBE AND PEPAIRS	4CRE	1.300	2.152	2.152
IPPIGATION FUEL LUPE AND REPAIRS	ACRE	1.000	2.518	2.518
INTEREST ON OPERATING CAPITAL		17.703	.080	1.417
TCTAL PREHARVEST COSTS	ACRE			69.333
HAPVEST COSTS CUSTOM COMBINE	ACRE	1.000	14.500	14.500
TOTAL MARVESTED ACRE(100)	ACRE			14.500
TOTAL HAPVEST COSTS PER PLANTED ACPE	∆C ₹E			14.500
TOTAL VARIABLE COST REP PLANTED ACRE	4085	~~~~		83.883
YIELO PER HARVESTE		30.000 30.		

YIFLD PER PLANTED ACRE 80.000 BU.
SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, OREGON
MACHINERY OPERATIONS RASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE

Table 19C

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SOURCET NATURAL RESOURCE ECONOMICS DIVISION, LRS, USTA, LORVALLIS, OREGON MACHINERY OPERATIONS HASEO ON DATA DEVILOPED BY THE SOIL CONSLIVATION SERVICE

Table 20A

IRPIGATED POTATOES: PRODUCTION COSTS AND RETURNS
LAND RESOURCE AREA 021 OREGON
COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGOPY	UNITS	PPICE		VALUE
PPOOUCTION POTATOES TOTAL PECEIPTS		2.500	350.000	
OPERATING INPUTS NITROGEN CUST. FERT. APP. CUST. INS. CONT. DIGGING SEED POTATOES SEFD POT. TREAT. VINE REMOVAL CUSTOM HOE CUST. FERT. APP.	L8S. ACRE	.280 2.600 11.600 .250 2.800 7.200	225.000 2.000 2.000 350.000 18.000	63.00 5.20 23.20 87.50 50.40 7.20
TRACTOR FUEL COST TRACT REPAIR COST TRACTOR LUBE COST EQUIP REPAIR COST IRRIG FUEL COST IRRIG REPAIR COST TOTAL OPERATING COST	ACRE ACRE ACRE ACRE ACRE ACRE	•••••		4.39 2.27 .66 3.07 2.18 .36 319.23
OVERHEAD, RISK, AND MANAGEMENT CAPITAL COST	,WATER,			555.77
ANNUAL OPERATING CAPITAL TRACTOR INVESTMENT EQUIPMENT INVESTMENT IRRIGATION SYSTEM INVESTMENT TOTAL INTEREST CHARGE		.080 .080	34.856 42.857 78.375	2.79 3.43
RETURNS TO LAND, LABOR, MACHINERY, WATE OVERHEAD, RISK AND MANAGEMENT	R.			335.68
OWNERSHIP COST (OEPRECIATION, TAXES, INSURANCE) TPACTOR FOUIPMENT IRRIGATION SYSTEM TOTAL OWNERSHIP COST	00L. 00L. 00L.			4.33 6.78 7.00 13.11
PETURNS TO LAND, LABOR, OVERHEAD, WATER PISK AND MANAGEMENT	•			518.58
LABOR COST MACHINERY LABOR IRRIGATION LABOR TOTAL LABOR COST	HR. HR.	3.000 3.000	2 • 45 4 4 • 0 5 9	19.54
RETURNS TO LAND, OVERHEAD, WATER, RISK AND MANAGEMENT				490 04

SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, OREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LRA 06 BUDGET IDENTIFICATION NUMBER --- 662130000 15155
ANNUAL CAPITAL MONTH 10

Table 20B

IPRIGATED POTATOES: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 021 OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNIT	OUANTITY	PRICE	VALUE
			DOLLARS	DOLLARS
PREHARVEST COSTS				
MACHINERY LABOR		2.454		
IRRIGATION LABOR		4.059		
NITROGEN		225.000		63.000
CUST. FERT. APP.	ACRE			5.200
CUST. INS. CCMT.		2.000		23.200
DIGGING		350.000		87.500
SEED POTATOES		18.000		50.400
SEED POT. TREAT.	CHT.	15.000	2.500	50.400
CUSTOM HOE	ACRE	1.000	15.º00	15.800
CUST. FERT. APP.	ACRE	1.000	2.500	2.500
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000	7.317	7.317
EQUIPMENT FUEL LUBE AND REPAIRS	ACRE	1.000	3.072	3.072
IRRIGATION FUEL LUBE AND PEPAIRS	ACRE	1.000	2.541	2.541
INTEREST ON OPERATING CAPITAL		51.882	.080	5.551
OTAL PREHARVEST COSTS	ACRE	•••		335.120
APVEST COSTS				
VINE REMOVAL	ACRE	1.600	7.200	7.200
OTAL HARVEST COSTS				
PEP HARVESTED ACRECION)	ACRE			7.200
TOTAL HAPVEST COSTS				
PER PLANTED ACRE	ACRE			7.200
TOTAL VARIABLE COST PEP PLANTED ACRE	ACRE			345.320

YIELD PER HARVESTED ACRE 350.000 CMT.

YIELD PER PLANTED ACRE 350.000 CMT.

SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, CREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LRA 06

Table 20C

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ANNUAL SAPITAL MONTH 10	
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TRRIGATED POTATOES: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 021 OREGON COORDIHATED COMPREHENSIVE JOINT PLAN, PACIFIC NOPTHWEST FEGION

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PRODUCTION 1 POINTDES 10 POINTDES 11 NITROGEN 12 CUST. FERT. APP. 13 FUNTGATION 14 CUST. HERT. APP. 15 CUST. HERT. APP. 16 CUST. HERT. APP. 17 SFE D POIT TREAT. 18 VINC PEMOVAL 19 CUSTON HOE 20 CUST. FERT. APP. 21 CUST. HAULZCWT 22 CUST. HAULZCWT 23 CUST. ERR. APP. 24 CUST. HAULZCWT 25 CUST. HAULZCWT 26 CUST. HAULZCWT 27 CUST. HAULZCWT 28 TANDEN 3-16 29 CUST. HAULZCWT 21 CUST. HAULZCWT 22 CUST. HAULZCWT 23 SUINE HARRON 23 SUINE HARRON	-	JAN		0			0	=	0	0	0	0	_	0	U	Ū	0	t,	2	0	0	0	0	0	0	0
			LINE PRODUCTION	1 POTATOES	OPFRATING INPUTS		11 MILSOGEN	CUST. FERT.			15 0166146		17 SEFU POT. TREAT.	18 VINE PEROVAL			21 CUST. HAULZCWI		MACHINERY VE 101 SEMEN	SB JARBEY DISK	39 M3 PLOW 3-16	40 CHISFL	41 POTATO PLANTER	62 RUM CULTIVATOR	4.3 SUIKE HARROW	49 ACIN IRRIG WAIFP

SOURCE: NATURAL PESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, ORFSON MACHINERY OPFRATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LAK 06

Table 21A

IPRIGATED WILD HAY: PRODUCTION COSTS AND RETURNS
LAND RESOURCE AREA 021 DREGON
COORDINATED COMPPEHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATEGORY	UNITS		QUANTITY	
PROOUCTION				
WILD HAY	TON	18.500		
9EEF	ras.	.358	230.000	
TOTAL RECEIPTS				121.54
OPERATING INPUTS				
NITROGEN	L3S.	.280		11.76
CUST STACK MCV.	ТОМ	5.500	2.000	
TRACTOR FUEL COST	ACRE			1.91
TRACT PEPAIR COST	ACPE			1.02
TRACTOR LUBE COST EQUIP FUEL COST	ACRE ACRE			.29
EGGIS FORE CORT	ACRE			.37
EQUIP REPAIR COST	ACRE			.92
IRRIG FUEL COST	ACRE			1.85
IRRIG REPAIR COST	ACRE			.31
TOTAL OPERATING COST				31.48
PETURNS TO LAND, LABOR, CAPITAL, MACHINE	PY.WATER.			
OVERHEAD. RISK. AND MANAGEMENT				90.16
CAPITAL COST				
ANNUAL OPERATING CAPITAL		.050	11.254	.90
TRACTOR INVESTMENT		.080	15.537	1.25
EQUIPMENT INVESTMENT		.090	26.702 66.500	2.14
IRRIGATION SYSTEM INVESTMENT		.090	65.500	5.32
TOTAL INTEREST CHARGE				9.51
RETURNS TO LAND, LABOR, MACHINERY, WA	rer.			
OVERHEAD. RISK AND MANAGEMENT				80.55
OWNERSHIP COST (DEPRECIATION.				
TAXES. INSURANCE)				
TRACTOR	00L.			1.94
EQUIPMENT	00L.			4.45
IRPIGATION SYSTEM	00 L.			5.94
TOTAL OWNERSHIP COST				12.32
RETURNS TO LAND, LAROR, OVERHEAD, HATE	۹,			
PISK AND MANAGEMENT				55.23
LAPOR COST				
MACHINERY LABOR	up.		1.748	
IRRIGATION LABOR	H₹.	3.000	3.446	
TOTAL LABOR COST				15.58
RETURNS TO LAND. OVERHEAD, WATER.				
PISK AND MANAGEMENT				52.66

SOURCE: NATURAL RESOURCE ÉCONCHIOS DIVISION. EPS. USDA. CORVALLIS. GREGON MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SCIL CONSERVATION SERVICE APPLICABLE TO LPA 16, 10, 23 KD 43
BUGET IDENTIFICATION NOTE: 532120000 15157

Table 21B

IRPIGATED WILD HAY: PRODUCTION COSTS AND RETURNS
LAND RESOURCE AREA 021 OREGON
COORDINATED COMPREHENSIVE JOINT PLAN. PACIFIC NORTHWEST REGION

CATEGORY	UNIT	QUANTITY		_
			DOLLAPS	
PREHARVEST COSTS				
MACHINERY LABOR	HOUR	.716	3 • 000	2.149
IRRIGATION LABOR	HOUR	3.444	3.000	10.332
NITROGEN	LBS.	42.000		11.750
TRACTOR FUEL LUBE AND REPAIRS		1.000		1.493
EQUIPMENT FUEL LUBE AND REPAIRS	ACRE		• 120	
IRRIGATION FUEL LUBE AND REPAIRS	ACRE		2,156	
INTEREST ON OPERATING CAPITAL		3.953	.080	.315
TOTAL PREHARVEST COSTS	ACRE	***		28.326
APVEST COSTS				
MACHINERY LABOR	HOUR	1.015	3.000	3.044
CUST STACK HOV.	TON	2.000	6.500	13.000
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000	1.726	1.725
EQUIPMENT FUEL LUSE AND REPAIRS	ACRE	1.000	1.225	1.225
OTAL HARVEST COSTS				
PER HARVESTED ACRE(100)	ACRE			18.995
OTAL MARVEST COSTS				
PER PLANTED ACRE	AC RE			18.995
CTAL VARIABLE COST PER PLANTED ACRE	ACRE			47.321
YIELO PEP HARVESTE	D ACRE	2.000 TON		

VIELD PER HARVESTEU ACRE 2.000 TON
YIELD PER PLANTED ACRE 2.000 TON
SOURCE: NATURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, CORVALLIS, OREGON
MACHINERY OPERATIONS BASED ON DATA DEVELOPED BY THE SOIL CONSERVATION SERVICE
APPLICABLE TO LRA 06, 10, 23 AND 43

Table 21C

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TRETEDIED HID HAYE PRODUCTION EGGIS AND BUILDING

TRETGATED HILD HAYE PRODUCTION COSTS AND PLICENS
LAND RESOURCE AREA 021 OREGON
GOORDINATED COMPREHENSIVE JOINT PLAN, PACIFIE HORTHUEST RELIGION

49 ACHN TRRTH HATER	RA SPIKE HARROW RO SP SWATHER RO DRY FERT SPREAU RI PTO HALLR	12 CUST STACK MOV.	PRODUCTION 1 MILD HAY 2 REEL 1 OPERATING INPUTS
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SOURCE: HAIURAL RESOURCE ECONOMICS DIVISION, ERS, USDA, GORVALLIE, ORISON NACHINERY OPERATIONS BASED ON DATA ULVELOPED BY THE SOIL CONSERVATION SERVICE APPLICABLE TO LRA U6, 10, 23 AND 43

Table 22A

IRRIGATED FIELD CORN'S PRODUCTION COSTS AND RETURNS
LAND RESCURCE AREA 302 OREGON
COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGOPY	HNTTS	POTCE	YTITHAUC	VAL IF
PRODUCTION				
FIELD COPY TOTAL PECETOTS			70.000	140.00
IOANT AFOF A 12				140.00
OPERATING INPUTS				
NITROGEN		. 280		14.00
PHOSPHORUS	L3S.		43.000	
POTASSIUM LIME	L3S.	.150	46.000 60.000	5.90 .72
ZINC	L3S.	.750	15.000	
CUST. HERBICIDE	ACRE		1.000	2.20
LASO	L3S.	4.550	3.000	
BALDEX	L35.			
CORN SETO	LBS.	.241 35.000	15.000 1.000	3.62
CUST. COMB. CORN CUSTOM HAULING	ACRE BU.		70.000	
TRACTOR FUEL COST	ACRE	• 100	/ 0 • 6 9 9	3.27
TRACT REPAIR COST	ACRE			1.74
	ACRE			.49
	ACRE			2.31
	ACRE			1.32
	ACRE			•22
TOTAL OPERATING COST				119.53
RETURNS TO LAND, LABOR, CAPITAL, MACHINERY,				
OVERHEAD. FISK, AND MANAGEMENT				21.47
DIRTHI AAAT				
ANNUAL OPERATING CAPITAL		0.9.0	41.753	7 71.
TRACTOR THVESTMENT		. 0.80	26.754	2.14
EQUIPMENT INVESTMENT		.030	32.057	2.56
IRRIGATION SYSTEM INVESTMENT		.090	32.057 47.500	3.50
TOTAL INTEREST CHAPSE				11.85
PETURNS TO LAND, LABOR, MACHIMERY, WATER				
OVERHEAD. RISK AND MANAGEMENT	•			9.52
OWNERSHIP COST (DEPRECIATION.				
TAXES, INSURANCE) TRACTOR	201			7 70
FOUTPMENT	00L.			3.32 5.07
IRRIGATION SYSTEM	001.			4.24
TOTAL OWNERSHIP COST				12.63
RETURNS TO LAND, LARDR, OVERHEAD, WATER, RISK AND MANAGEMENT				-3.01
ZION HUN HENGELENI				-2.01
LABOR COST				
MACHINERY LAROR	Η₹.		2.642	
IRRIGATION LARGO	HR.	3.000	2.460	
TOTAL LABOR COST				15.30
RETURNS TO LAND. OVERHEAD. WATER.				
RISK AND MANAGEMENT				-18.31

FLOOD IRRIGATED

Table 22B IPRIGATED FIELD CORN: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA OBS OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY	UNIT	OUANTITY	PRICE	VALUE
	******		DOLLARS	COLLARS
PREHARVEST COSTS				
MACHINERY LABOR	หวบจ	2.642	3.000	7.925
IRPIGATION LABOR	หวบจ	2.460	3.200	7.330
NITROGEN	L3S.	50.000	. 290	
PHOSPHORUS	LBS.	47.000	. 230	
POTASSIUM	LBS.	46.000	. 150	5.900
LIME	Las.	50.000	.012	.720
ZINC	LBS.	15.000	. 750	11.250
CUST. HEPBICIDE	ACRE	1.200	2.200	2.200
LASO	LBS.	3.860	4.550	13.650
3 4L3 EX	LBS.	1.500	3.300	+.950
COPM SEED	LBS.	15.000	. 241	3.615
TRACTOR FUEL LURE AND REPAIRS	ACRE	1.000	5.507	5.507
EQUIPMENT FUEL LUPE AND REPAIRS	ACRE	1.000	2.312	2.312
IPRIGATION FUEL LUBE AND FEMAIRS	ACRE	1.760	1.540	1.540
INTEREST ON OPERATING CAPITAL		41.753	.080	3.340
TOTAL PREHARVEST COSTS	40RE	***	***	95.179
HAPVEST COSTS				
CUSI. COMB. CORN	ACRE	4 000	35.000	7= 000
CUSTOM HAULING	30.	70.200		7.000
(50.	70.300		7.500
TOTAL HAPAESI COSTS				
PER HARVESTED ACRE(100)	ACRE			42.000

PEP PLANTED ACRE	ACRE			42.000
	-0 12			
TOTAL VARIABLE COST PER PLANTED ACRE	ACRE			137.179
	0 4000	70 000 311		
YIELD PEP HARVESTE				
YIELD PEP PLANTED	4045	70.000 50.		
eroop idelegated				

Table 22C

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13000	IRRIGATED FIELD CORN: PRODUCTION LAND PESDURCE APEA 002 OREGON COORDINATED COMPREHENSIVE JOINT	S YAM Y	0	TAG	0	-	0	0	0	0	0	0 (-	0		0	0	0	0	0	0	0		1.00	4.00
9.8 2	IRRIGATED FIELD CORN: PRO Lano pesquece apea 002 or coordinated comprehensive	4 APR	0		0	-	0	0	0	0	0	0	0	0		0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0	0
NUMGFR	FLN CC	M M A R	C		50.00	45.00	60.00	15.00	1.00	3.00	1.5	15.00	0	0		0	0	0	0	0	0	0	0	0	0
ATION	TFO FI FSOURC NATED	€ H	0		0	> c	0	0	0	0	0	0 0	0	0		0	0	0	0	0	C	0	0	0	0
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AUJGET IOCNITFICATION NUMBE		SHIT	1 FIFLD CORN	OPERATING INPUIS		12 PHOSPHORUS	14 LIME						_	21 CUSTON HAULING	MACHINERY PEQUISCHENT	38 M3 PLOW 3-16				42 03Y FERT SPREAD		SpI	45 FLOAT		49 ACIN IRRIS WATER

FLOON IRRIGATED

Table 23A

IPRIGATED FIELD COPN: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA DOZ DREGON COORDINATED DOMPREHENSIVE JOINT PLAN, PACIFIC MORTHWEST REGION

CATEGORY	UNITS	PRICE	YTITMAUQ	VALUE
PRODUCTION				•••••••
FIELD COPY	3∪•	2.000	90.090	180.00
TOTAL RECETOTS				180.00
OPERATING INPUTS				
MITOGEN	L3S.	.230		
PHOSPHOOUS	L3S.	.230	53.000	13.80
POTASSIUM 7INC	L3S.	.150 .750	40.600	
CORN SEED	L3S.	. 241	15.000 15.000	11.25
CUST. FEDT. ADD.	10RE	2.600		
CUST. HERBICIDE	ADRE	2.200		
£450	LBS.	4.550		13.65
PALDEX	L95.	3.300		
CUST. COMB. COMM	ACRE	35.000		
CUSTOM HAULING	30.	.170		
TRACTOR FUEL COST	ACRE	• • • •	. 0 0 0 0 0	3.07
TRACT REPAIR COST	ACRE			2.00
TRACTOR LUBE COST	ACRE			.46
FOULD SESAIR COST	ACPE			2.25
IRPIG FUEL COST	4005			1.22
IRPIG REPAIR COST	ACRE			.21
TOTAL OPERATING COST				139.25
OVERHEAD, RISK, AND MANAGEMENT CAPITAL COST ANNUAL OPERATING CAPITAL			38.190	
TRACTOR INVESTMENT		. 0 9 0	26.541	2.12
EQUIPMENT INVESTMENT			14.976	
IRPIGATION SYSTEM INVESTMENT		.090	44.000	3.52
TOTAL INTEREST CHARGE				9.90
AETURNS TO LAND. LABOR, MACHINERY, AA TENENBERTENT TO LARREST THE TRANSPORTED TO THE TRAN	re>,			30.92
OWNERSHIP COST (DEPRECIATION.				
TAXES* INCHISTNUE!				
1810108	DOL.			3.11
EQUIPMENT	JCL.			2.51
IRPIGATION SYSTEM	DOL.			3.92
TOTAL OWNERSHIP DOS"				9.54
RETURNS TO LANC. LARGE, OVERHEAD, WATE	FR,			21.29
LABOR COST				
MACHINERY LAGOS	нэ.	7.000	1.351	4.08
IRRIGATION LARTS	нэ.	3.000	3.375	10.13
TOTAL LABOR TOST				14.21
PETUPNS TO LAND. CAFRMEAD, MATER.				7.0-
RISK AND MANAGEMENT				4.5

HAND-HOVE IPPIGATION SYSTEM

BUDGET IDENTIFICATION WIMPER --- 88 210000 11187 ANNUAL CAPITAL MONTH 10

Table 23B

IRRIGATED FIELD CORN: PRODUCTION COSTS AND RETURNS LAND RESOURCE AREA 802 OPEGON COORDINATED DOMPREHENSIVE JOINT PLAN, PACIFIC NORTHWEST REGION

CATEGORY		QUANTITY		
			DOLLARS	
PEHARVEST COSTS				
MACHINERY LABOR	HOUR	1.361	3.000	4.053
IRRIGATION LABOR		3.376		10.128
NITROGEN		100.000		28.000
PHOSPHORUS	L3S.	60.202	. 230	13.900
POTASSIUM	L3S.	40.000	. 150	5.000
ZINC	LBS.	15.000	. 750	11.250
CORN SEED	L3S.	15.000	. 241	3.615
CUST. FERT. APP.	ACRE	1.000	2.600	2.600
CUST. HERBICIDE	ACRE	1.300	2.200	2.200
LASO	L3S.	3.000	4.550	13.650
PALDEX	L3S.	1.500	3.300	4.950
TRACTOR FUEL LUBE AND REPAIRS	ACRE	1.000	5.535	5 - 5 - 5 - 5 - 5
FOUIPMENT FUEL LURE AND PEPAIRS	ACRE	1.000	2.255	2.259
IRRIGATION FUEL LUBE AND REPAIPS	ACRE	1.000	1.424	1.420
INTEREST ON OPERATING CAPITAL		35.190	.050	3.059
CTAL PREHARVEST COSTS	ACRE			112.545
APVEST COSTS				
CUST. COMR. CORN	ACRE	1.00C	35.000	35.000
CUSTOM HAULING	90.	90.000	. 100	9.000
OTAL HARVEST COSTS				
PER HAPVESTED ACRE (100)	ACRE	***		44.000
OTAL HARVEST COSTS				
PER PLANTED ACRE	ACRE			44.000
OTAL VARIABLE COST PER PLANTED ACPE	ACRE			156.549
YIELD PEP HAPVEST YIELD PEP PLANTED AND-MOVE IRRIGATION SYSTEM		90.000 3U. 90.000 BU.		

HAND-MOVE IRRIGATION SYSTEM

Table 23C

Jan	TRRIGATED FIELD CORNY PRODUCTION COSTS AND RETURNS LAND RESOURGE AREA 002 OREGON COORDINATED COMPREHENSIVE JOINT PLAN, PAGIFIC NORTHWEST REGION	BUJGET TOENTIFTCATION NUMBER 88 210000 11197
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1 2 3 4 JAN FFR MAR APR	COMPRE TOMPRE	HUMBER
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HAY	IRRIGATED FIFLD CORNY PRODUCTION COSTS AND RETURNS LAND RESOURGE AREA 002 OREGON COORDINATED COMPREHENSIVE JOINY PLAN, PAGIETC NORT	0.0001
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JUL	STS AH	
AUG	D SEIN	A
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0005 0011		1 COP 0
3000 115H		випи
1441		
1800		=

49 ACTH TRRIG WATER	38 M3 PLOW 6-16 39 TANDEM DISK 40 SPIKE HARROW 41 SPIKE HARROW 42 PLANTER	CHINTRY	11 NITPOGEN 12 PHOSPHORUS 13 POTASSIUM 14 THO 15 CORN SEED 16 CUST. FFRI. APP.	LINE PRODUCTION 1 FIELD CODY
0	0 0 0 0	7HFS		JAN 0
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 1972.

APPENDIX I

APPENDIX I

EQUATIONS FOR MACHINERY FIXED AND VARIABLE COSTS

The equations and data descriptions presented in the Appendix are taken from the <u>User's Manual of the Crop and Livestock Budget Generator</u>
[7]. The equations are used in the budget generator program to compute fixed costs (depreciation, interest, insurance, and taxes) per hour; variable costs (repairs, fuel, and lubricants) per hour; and the performance rates (hours per acre) for the machines listed in the machinery requirements of the C tables. The equations are presented in this Appendix with a minimum of modification, for the convenience of the user of this report. Values of the variables used in the equations are furnished in table 1 and table 3 of this report.

Fixed Costs Per Hour

Fixed costs are those costs which do not vary with usage over a given time span. Fixed cost equations presented are depreciation, interest, insurance, and taxes.

Depreciation

There are several methods generally acceptable for computing depreciation. However, for planning purposes, depreciation should reflect the actual decline in value incurred by the operator. Bowers [2] uses a modified double declining balance method to represent this relation. The major modification is the addition of a factor which yields a very high first-year depreciation. Salvage value is obtained with the following equation:

(A-1) Salvage value = RFV1 x XLP x RFV2 YEARS.

XLP is the initial list price of the machine, and RFV1 and RFV2 are two variables which describe the declining balance depreciation equation for machines. RFV1 is the first year correction factor, and RFV2 is a component of the standard declining balance equation. Bowers [2] has estimated values for these two variables for selected categories of

machines. These values are found in columns 11 and 12 of table 1. The equation is also found in the <u>Agricultural Engineers Yearbook</u> [1]. The remaining variable, years owned, is the number of years the operator expects to own the machine.

Having calculated salvage value in equation (A-1) above, depreciation cost per hour may now be computed according to equation (A-2):

(A-2) Depreciation cost per hour = (purchase price - salvage value) (hours used annually x years owned)

Purchase price is the actual dollar amount paid for the machine, and hours used annually is the average number of hours the machine is used each year it is owned. The other variables have been explained previously.

Interest Cost Per Hour

The interest charge for machines used by the enterprise, based on the average amount of capital invested over the ownership period. Interest cost per hour is computed according to the following equation:

(A-3) Interest cost per hour =

(purchase price + salvage value) x interest rate
(2.0 x hours used annually)

The interest rate in the above equation is specified as default parameter number 6 in table 3. The term

(purchase price + salvage value)
(2.0 x hours used annually)

is the average investment per hour used for the machine.

Insurance Cost Per Hour

The computed insurance cost per hour is also based on the average amount of capital invested. The formula for hourly insurance cost is:

(A-4) Insurance cost per hour = average investment per hour used x insurance rate.

The insurance rate in the above equation is specified as default parameter number 7 in table 3.

Tax Cost Per Hour

The cost of taxes per hour is based on the purchase price of the machine. Hourly tax costs are computed using the following equation:

(A-5) Tax cost per hour = $\frac{\text{(purchase price x tax rate)}}{\text{(hours used annually)}}$. The tax rate is specified as default parameter number 8 in table 3.

Total Ownership Cost Per Hour

Total ownership cost per hour is the sum of depreciation cost per hour, insurance cost per hour, and tax cost per hour. Interest cost per hour is excluded, because the interest may represent an opportunity cost rather than a direct cost incurred by ownership.

Variable Costs

The variable costs associated with the operation of machinery are those costs which vary directly with usage. If a machine is not used, variable costs will not be incurred. Costs are computed for repairs, fuel, and lubricants.

Repair Cost

Repairs are usually the most variable component of machinery costs. Repair costs are influenced by a number of items, including (1) management; (2) maintenance level; (3) machine variability; (4) variability in local costs for parts and labor; and (5) the effects of climate and soils. However, in a study conducted by Bowers and Larsen, a set of equations was developed to estimate repairs. The equations relate repairs to the age of a machine and its initial list price. Equation (Λ -6) is the general equation used to estimate the total accumulated repairs for the number of years the machine is expected to be owned.

- (A-6) Total accumulated repairs = initial list price \times RC1 \times RC2 \times (percent life) RC3.
- (A-7) Percent life = $\frac{\text{(years owned x hours used annually)}}{\text{(hours of life)}}$.
- (A-8) Repair cost per hour = $\frac{\text{(total accumulated repairs)}}{\text{(hours used annually x years owned)}}$.

RCl is the ratio of total accumulated repairs to initial list price for the entire life of the machine. RC2 and RC3 are two repair cost constants that go together to determine the shape of the repair rate curve. Hours of life is the total number of hours during the machine's expected mechanical life.

Bowers and Larsen estimated values for the three variables - RC1, RC2, and RC3 - using regression analysis on Illinois machinery cost data. The American Society of Agricultural Engineers has adopted the above equation in their yearbook. Values of RC1, RC2, and RC3 are presented in table 1 of this report. An estimate of the total hours of life for each machine is also given.

Fuel Cost

The equation used to compute fuel cost per hour was developed at Oklahoma State University. The equation relates fuel consumption to the horsepower ratings of the tractors and self-propelled machines. The horsepower ratings are given in column 16 of table 1. The formula for computing fuel use is:

(A-9) Fuel consumption per hour = horsepower x fuel consumption multiplier.

The formula for fuel cost per hour is:

(A-10) Fuel cost per hour = fuel consumption per hour x price per gallon of fuel.

There are three fuel types (gasoline, LP gas, and diesel); consequently, there are three fuel multipliers for each implement that has a motor. The prices for the three fuel types are specified as default parameters 1, 2, and 3 in table 3. The fuel multipliers used in the budgets in this report are shown in table A-1. Fuel type is specified in column 14 of table 1.

Table A-1.—Fuel multipliers

Machine	Code	Gasoline	LP gas	Diesel
Wheel tractor	1	.0912		.0614
Wheel tractor	2	.0940		.0671
Wheel tractor	3	-	all the same of th	.0649
Wheel tractor	4	-		.0709
Crawler tractor	5		-	.0709
Crawler tractor	6		-	.0679
Crawler tractor	7		-	.0709
Wheel tractor	3	allen	and the same of th	.0703
Wheel tractor	9	-		.0649
Self-propelled combine	13	.0975	-	.0697
Self-propelled combine	14	.0975		.0677
Self-propelled combine	15	.0975		.0677
Self-propelled swather	16	.0912		.0614
Self-propelled swather	17	.0940		.0671
Self-propelled combine	18	.1004	-	.0697
DELT Proposition complitions as a second	10	# T 004		• 0077

SOURCE: Natural Resource Economics Division, Economic Research Service, U.S. Department of Agriculture, Corvallis, Oregon.

Lubricant Cost

Lubricant cost is assumed to be 15 percent of the cost of fuel. Equation (A-11) is used to estimate the cost of lubricants:

(A-11) Lubricant cost per hour = .15 x fuel cost per hour.

The cost of fuel and lubricants is computed only for machines with motors.

Lubricant costs for machines without motors are included in repair costs.

Capacities of Machines

Before hourly machinery costs can be allocated on a per-acre basis, one additional bit of information is needed for each implement. Required is the number of hours the machine must be operated to cover one acre (hours/times over). Equation (A-12) is used to compute this value for the pull-type implements (machine codes 29-100) and some engine-type machines (machine codes 12-29), table 1.

(A-12) Hours per acre =
$$\frac{(1.0)}{(\text{speed x width x EFF})/8.25}$$

where:

Width = the number of feet covered by the implement; and

EFF = the field efficiency of the machine.

Field efficiency is the ratio of the actual capacity of a machine to its theoretical capacity.

Machinery Hours Used

The number of hours each machine is used on an acre is computed by multiplying the hours-per-acre coefficient computed in equation (A-12) by the times over per acre for each machine specified in the machinery requirements section of the C tables. Hours for a particular power unit are computed by multiplying the number of hours the implements (machine codes 30-100) are used, by a default factor of 1.1 to reflect turning time and traveling to and from the field. Total tractor hours for an enterprise are computed by summing the number of hours machines 1 through 9 are used.

Variable Machine Costs Per Acre

After computing the number of hours that each machine is used, the cost of fuel, lubricant, and repair cost per acre for self-propelled (machine codes 1-29) and the cost of lubricants and repairs per acre for machinery (machine codes 30-100) are computed. This is accomplished by

multiplying the variable costs per hour for each machine by the number of hours each machine is used.

Fixed Costs Per Acre

The fixed costs per acre for tractors (machine codes 1-9) and machinery (machine codes 10-100) are categorized into ownership cost (depreciation, insurance, and taxes) and capital cost (interest cost). The amount of capital per hour for each machine is computed by dividing the interest cost per hour by the interest rate. To place these items (ownership cost and capital cost) on a per-acre basis, ownership and capital costs per hour are multiplied by the number of hours that each machine is used on an acre.

Hours of Machinery Labor

The hours of labor required to operate the machinery are computed by multiplying total tractor hours by a default factor of 1.1. This factor is used to reflect time required for adjusting equipment, lubrication, maintenance, etc.

For all self-powered implements, total labor is computed by multiplying total time by the default factor 1.2. This factor reflects time required for adjusting equipment, lubrication, maintenance, etc.

